COSTING EQUAL VALUE LEGISLATION IN ONTARIO

(A Report to the Ontario Ministry of Labour)

by

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- Equal-pay-for-work-of-equal-value legislation will have *direct* costs in terms of wage increases likely to emanate from the legislation and *indirect* costs in terms of changes in related wages, administrative costs associated with job evaluation procedures and efficiency costs associated with restricting the flexibility of the wage mechanism.

- The purpose of this report is to provide a range of estimates of the *direct* costs by quantifying the two basic ingredients of that cost: the *number* of persons likely to receive wage adjustments and the expected wage adjustment that each will receive.

- Some 45 different estimates of the expected *wage* adjustments were made from a number of sources: court awards or implementation policies from a number of cases where equal value was pursued including Washington state, Minnesota state, San-José and the federal and Quebec jurisdictions in Canada; estimates based on the application to the U.S. economy; and estimates based on closing .20 of the wage gap, a portion that can be attributed to unequal pay for work of equal value, as determined by a number of job evaluation studies.

- While the expected per person wage adjustment (in 1983 dollars) resulting from these 45 different estimates ranged from \$7.33 to \$64,516, the most extreme values were dismissed for a number of reasons and a more reasonable (but still very large range) of \$1,077 to \$7,355 was provided. Within that range, a subset of wage adjustments of \$2,000 - \$3,000 per person was suggested as being most likely, in part because that was the most common range from cases where equal value had been *actually implemented*.

- The implementation procedure, however, generally involved raising the pay of "undervalued" female jobs to a level commensurate with the "value" of their job as determined by a job evaluation procedure. It did not involve raising their pay to that of "overvalued" male jobs as determined in the same fashion. Such an adjustment, which could ultimately ensue if the job evaluation process continued, would involve per person wage adjustments of twice the initial magnitude, being closer to $5,000. This latter figure is consistent with closing about .20 of the overall male-female wage gap, a portion that can be attributed to unequal pay for work of equal value as determined by a job evaluation procedure.

- While the expected wage adjustment exhibited a large range, the expected number of persons likely to be affected exhibited an even larger range.

- Four alternative estimates of the number of persons likely to be directly affected in Ontario were provided: (1) 1,065,024 based on the ratio of 34.4 percent of the approximately 3,096,000 full-time paid workers in Ontario covered by the Employment Standards Act; the 34.4 percent figure being the proportion of the work force being affected by the State of Washington award; (2) 712,080 full-time, paid workers, based on the 23 percent of the relevant Ontario work force affected by being in predominantly female (i.e., 70 percent or more female) occupations and covered by the Employment Standards Act; (3) a 409,600 estimate based on Sheila Copps estimate of 10 percent of the jobs in Ontario, and (4) a 14,487 estimate based on the assumption that the same proportion of the Ontario work force would be affected as the proportion in the federal jurisdiction over the 1980-1982 period. Clearly, the range of numbers is substantial, representing various proportions of the approximately 2 million female labour force and 4.6 million total labour force of Ontario in 1983.

. A summary of the total cost estimates was made by multiplying the ten "best" estimates of the expected per person cost times the four alternative estimates of the expected number of persons likely to be directly affected. This yielded a range from $15 million to almost $8 billion for Ontario. Utilizing the "best of the best" per person cost estimates of $2,000 - $3,000 per person (the most common range associated with cases of actual implementation) and the more common range of approximately 400,000 to 1 million Ontario workers being directly affected (assuming a fairly extensive application to the province) reduces the range to approximately $1 - 3 billion.

. While this is certainly a smaller range, it should be kept in mind that reasonable estimates could be as high as $6 billion (assuming a closing of the gap that could be attributed to unequal pay for work of equal value) and as low as $29 million (assuming a per person wage adjustment of approximately $2,000 were to apply to only 14,000 workers, a number that would reflect a cautious application of the equal value principle, as has been the case in the federal jurisdiction.

. For reasons discussed in the report, this latter figure of 14,000 is likely to be a substantial underestimate of the number of persons in Ontario who are likely to be directly affected.

. Hence, based on the application to a reasonable number of the Ontario work force (400,000 to 1 million persons) and likely adjustments of $2,000 - $3,000 per person, the total cost of a fairly broad application of the equal value principal to Ontario could be expected to be in the range of $1 - 3 billion dollars.

. While these cost estimates provide some perspective on the debate over equal value, the real debate is likely to hinge on the efficacy of determining "value" through administrative procedures like job evaluation plans as opposed to market forces, and the likely adjustments that will ensue.

1. INTRODUCTION

In any debate over the viability of any policy option, including equal pay for work of equal value, the issue of cost will be a factor to consider. Some would argue that it is a paramount factor, especially in an economy that is desperately trying to maintain a competitive position; others would argue that it is of limited if any importance since cost is not a legitimate defence against discrimination and since the cost of unequal pay is already being borne by those who are discriminated against.

The importance that _should_ be attached to this cost factor relative to other considerations is beyond the pervue of this report; the purpose is to provide estimate of the direct labour costs that will emanate from the wage changes that can be expected to result from the application of equal value legislation. This concept of the _direct_ cost has been identified in previous documents as in need of quantification (Ontario Ministry of Labour, 1976, 1978, 1980). Other _indirect_ cost consequences (e.g., changes in other wages; administrative costs of job evaluation and government intervention; and consequences of restricting the flexibility of the wage mechanism) have also been identified as potentially important. While these are discussed in the report, any attempt at quantification is beyond the scope of this analysis.

Whether justified or not, concern over the cost implications has been identified as an obstacle to the adoption of the equal value principle. As indicated by Judith Swan (1982, p.323): "The main obstacle still subsisting seems to be an economic one, i.e., fear of the cost of introducing equal remuneration and the effects of such a measure on employment. There are two chief worries: one is that the increase of production costs vis a vis foreign competitors will place an industry whose employees are predominantly female at a disadvantage and the other is that employment of females will be discouraged."

Other concerns over equal value legislation have been identified. The practicality and administrative costs associated with job evaluation procedures as a method of determining the "worth" of jobs has been seriously questioned[1] and the possibility has been raised that raising wages in predominantly female jobs will encourage women to remain in such sex segregated job (Nelson, Opton and Wilson) and that comparable worth reinforces gender-based economic roles hence mitigating against the fundamental restructing of the household economy that is ultimately necessary for complete equality (Barrett, 1982). The possibility that unions may be concerned that their wage negotiating role may be usurped by a "scientific" job evaluation procedure and that equal value may be traded off against other bargaining demands has also been raised (Swann, 1982, p.138) as have concerns over further government intervention in the market place at a time when deregulation tends to be emphasized.

In contrast, advocates of equal value tend to downplay the importance of market forces that reflect such factors as discriminatory preferences, segmented rather than competitive forces, and systemic discrimination that can lead to the systematic undervaluation of female jobs. The belief is that it is necessary to adopt equal value so as to expand the set of jobs that can be compared (i.e., jobs of equal value whatever the occupation) so as to reduce the wage gap attributable to occupational segregation, which is generally attributed to be larger than the wage gap attributed to wage discrimination within the same narrowly defined occupation -- the latter component being the pervue of conventional equal pay legislation.

Whatever the pros and cons of adopting equal value, the total cost consequences of the policy will depend crucially on the number of persons who likely will be affected and the magnitude of the wage adjustments they each will receive. Chapter 2 provides a range of estimates of the likely numbers who will be affected in Ontario. Chapters 3 and 4 provide a range of estimates of the likely magnitude of the wage adjustment that would be involved for each person.

These latter figures were derived basically by taking the total cost estimates from a number of cases where equal value has been applied and dividing by the number of persons involved to arrive at a per person cost estimate. (As the subsequent discussion illustrates, however, this was not usually straightforward because full information was seldom available on the cases and hence a number of assumptions and complicated adjustments and checks had to be employed). The cases included the State of Washington (its equal value study, its court award and its implementation plan), San Jose, the State of Minnesota, some national estimates for the United States, and the Federal and Quebec equal value cases.

These per person cost estimates were then updated and adjusted to the Ontario situation and multiplied by the various estimates of the number of persons likely to be involved in Ontario (from Chapter 2) to get total cost estimates for Ontario. In each case a range of estimates is involved and there is some discussion of what estimates are more likely to be within what could be considered a reasonable range. The analysis also indicates the factors that give rise to the variation in the cost estimates; hence, illustrating how sensitive these estimates are to variation in the contributing factors.

In addition to the per person cost estimates derived from the various cases where equal value has been implemented (as discussed in Chapters 3 and 4), Chapter 5 provides an estimate based on the portion of the overall male-female earnings gap in Ontario that is likely to be affected by equal value legislation. This not only provides an independent estimate, but serves as a check on the estimates derived by the alternative methodology of dividing the total cost experienced in the particular cases by the number of persons affected.

Chapter 6 focuses on some possible indirect effects that may exacerbate or mitigate the direct cost consequences associated with the wage changes that are likely to occur to those who receive equal value adjustments. These indirect effects include changes in male wages and other wages in the wage hierarchy as well as effects on the qualifications, hiring standards, working conditions and management practices -- changes that have also been discussed in the context of adjustments to union or minimum wage increases.

Chapter 7 deals in a nonquantitative fashion with a number of administrative or design features of equal value legislation that could affect the costs. These include a phasing-in period, the stage of the business cycle when the policy is adopted, the coverage in various sectors (ranging from government departments to the broader public sector like health and education, to Crown corporations, to the private sector that does business with the public sector, to the pure private sector itself), retroactivity and actual enforcement procedures.

Chapter 8 concludes with a summary, focusing on limiting the range of estimates to what could be considered a more reasonable range of estimates. In addition, some limitations of the analysis are highlighted and the "costing" analysis is put in the context of the broader array of relevant program evaluation criteria, of which cost is but one of many factors.

At the outset, it should be highlighted that the cost factors discussed in this report refer to the direct wage adjustments that can be expected to occur (these are quantified) and to other indirect adjustments to other wages and to other factors (these are discussed in a nonquantitative fashion). The report does not deal directly with the administrative and regulatory costs that are likely to be associated with the extensive application of job evaluation procedures used to establish the "worth" of jobs, as opposed to utilizing the basic market forces of supply and demand. Nor does the report deal with alternative and complementary policies like grievance and interest arbitration (Wisniewski, 1982) or affirmative action, that may work to attain the same objectives.

FOOTNOTES TO CHAPTER 1

1. The application of job evaluation procedures to the problem of determining equal pay for work of equal value has been discussed in a number of sources referred to in the references including: Blumrosen, 1980; Gold, 1983; Hills, 1982; Jain and Sloane, 1981; Livernash, 1980; Longmore, 1980; Meeker, 1981; Milkovich, 1980; Nelson, Opton and Wilson, 1980-81; Ontario Ministry of Labour, 1976; Perlman and Ennis, 1980; Remick, 1980, 1981; Risher and Cameron, 1981-82; Treiman, 1979; Walmsley, Ohtsu and Verma, 1980.

2. RANGE OF NUMBERS POTENTIALLY AFFECTED

Clearly the cost of equal value legislation is going to depend crucially on the number of workers whose wages change as a result of the legislation. In terms of the number of workers affected, equal value legislation can have a direct impact as well as an indirect impact. The direct impact refers to those persons whose wages would be mandated to change directly as a result of the legislation. The indirect impact refers to those persons whose wages would change not because they are mandated to change by law but rather they change as an indirect effect of the legislation, for example, to restore a traditional wage hierarchy. This section of the paper concentrates on the numbers who may be directly affected; a subsequent section deals with the indirect consequences.

Potentially the number of persons who could be affected by equal value legislation could range from the whole labour force down to a small number reflecting the number of successful settlements that are likely to ensue. The real question is: what is a meaningful range of numbers within this broader range? What follows is an attempt to discuss the various possibilities and to narrow them down to a range of more likely estimates.

FEMALE EMPLOYMENT IN ONTARIO

Table 2.1 illustrates various dimensions of the workforce in Ontario for the years 1977, 1981 and 1983. These years correspond respectively to the year of the cost estimates for the State of Washington study (from which comparisons will subsequently be made), the 1981 Census which provides the most detailed breakdown of the workforce, and the most recent year for which data is available.

As of 1983, the female labour force in Ontario was approximately 1,971,000 or 43 percent of the total labour force. However, the labour force consists of the employed plus the unemployed, the latter of whom are obviously not eligible to be affected by equal value legislation. As of 1983 female employment in Ontario was approximately 1,768,000. A further modification to exclude the self-employed and focus only on paid workers will be discussed subsequently when the numbers are restricted to reflect coverage under the Employment Standards Act.

The issue is complicated, however, by the fact that equal value legislation is not directed solely at females but rather at jobs that are underpaid relative to other jobs of similar "value" where value is defined in terms of job characteristics such as skill, effort, responsibility and working conditions. While such jobs are likely to be female dominated they may involve a number of males who are also working in those jobs presumably at the same "undervalued" pay as the females. (If they were not then they would be clear candidates for conventional equal-pay-for-substantially-similar-work legislation.)

TABLE 2.1 -- ONTARIO LABOUR FORCE, 1977, 1981, 1983
(thousands)

Component of Labour Force	1977		1981		1983	
	Female	Total	Female	Total	Female	Total
Labour Force	1,664	3,986	1,882	4,464	1,971	4,570
Employed[a]	1,444	3,708	1,744	4,171	1,768	4,096
Paid Workers[b]	1,328	3,372	1,604	3,807	1,629	3,727
Full time[c]	1,103	3,233	1,310	3,566	1,303	3,440

Source: Statistics Canada, Labour Force, Annual Averages, 1975-1983, No. 71-529, (February 1984). The figures from this publication, which are historically consistent, differ slightly from the annual figures given in The Labour Force, No. 71-001, because the former was designed to be consistent with the 1981 Census concepts.

Notes:

a. Excludes unemployed from labour force.

b. Excludes persons who are employers, own-account workers, and unpaid family members, i.e., persons who are considered self-employed.

c. Usually worked 30 hours or more per week, plus those who usually worked less than 30 hours but consider themselves to be employed full-time.

Thus one cannot simply take the whole female workforce as a potential upper bound for the number of persons who could be directly affected by equal value legislation since some males may also have their pay directly raised as a result of the legislation. (Others may have their wages indirectly affected, however, that effect will be discussed in a subsequent section.) The number of males directly affected, however, is likely to be small and certainly likely to be offset by the number of females whose wages would not be affected either because their work was not "undervalued" or because no legislative initiative would likely be taken. This suggests that female employment in Ontario of 1,768,000 is likely to be an extreme upper bound on the number of workers whose wages could potentially increase as a result of equal value legislation.

COVERAGE BY EMPLOYMENT STANDARDS ACT

Not all workers in Ontario, however, are covered by the Employment Standards Act, the legislation that would likely be modified to incorporate the equal value concept. The legislation is restricted to employees (i.e. paid workers) who have an employment relationship; that is, the self-employed are obviously excluded. As Table 2.1 indicates, there were approximately 1,629,000 female employed paid workers in Ontario in 1983.

In addition, the Ontario Employment Standards Act does not apply to the approximately 10 percent of the workforce under federal jurisdiction.[1] This further restriction would reduce the potential number of employees who could be directly affected by equal value legislation to 1,466,100 (i.e. .9 x 1,629,000). Outside of these obvious exclusions of the self-employed and those under federal jurisdiction, the Employment Standards Act is quite comprehensive, covering part-time workers as well as establishments of any size.

RESTRICTIONS TO FULL-TIME, LARGER ESTABLISHMENTS AND WITHIN ESTABLISHMENTS

In attempting to arrive at a more realistic number from the maximum potential number of persons who could be affected by a change to equal value legislation, a number of further restrictions could be imposed. However, the extent to which these restrictions are appropriate is more uncertain and some may be encompassed by subsequent restrictions; hence, they are discussed here but the numbers are not adjusted at least at this stage to reflect these restrictions.

Full-Time

Although the Employment Standards Act covers both full- and part-time workers, its application with respect to equal value is more likely to be focused on full-time workers. They are more likely to press for equal value given their greater commitment to the workforce and potential gain from such wage increases. In addition their work is more likely to be subject to job evaluation and to have other benchmark jobs for which equal value comparisons can be made. To the extent that only full-time females are likely to be potentially affected by a change to equal value legislation, then this would reduce the potential numbers directly affected to approximately 1,303,000 (Table 2.1).

Larger Establishments

Realistically equal value cases also are likely to come from larger establishments for a number of reasons. They are more likely to have the job evaluation schemes that are a likely (albeit not a necessary) ingredient for an equal value assessment and they are more likely to be targetted for assessment because of their greater symbolic effect on other firms. In addition, comparable male-dominated jobs are more likely to be found in larger establishments and the plaintiffs are more likely to be protected by anonymity and possibly by union protection in large establishments.

No adjustment is made at this stage to restrict the potential numbers to larger establishments because formally the Employment Standards Act does apply to establishments of all sizes. In addition, a subsequent restriction to those in sex segregated occupations will somewhat reflect the restriction to larger establishments since many of those occupations are likely to be more prevalent in larger establishments.

The magnitude of any adjustment to exclude persons in smaller establishments is likely to be very small since although there are a large number of small establishments they do not employ many workers and many are working owners or partners who obviously would not be subject to equal value legislation initiatives. For example, in 1975 less than seven percent of employees in manufacturing were employed in establishments of less than 20 employees.[2] The numbers become substantially larger if one excludes the approximately 50 percent of employees who are in establishments of less than 200, perhaps on the grounds that they are unlikely to have job evaluation procedures; however, this would seem to be an overly restrictive exclusion since employees in establishments of less than 200 certainly are potentially subject to equal value legislative initiatives and many in fact are likely to be subject to such a policy.

Given the uncertainty about the relevance of equal value legislation to workers in smaller establishments no adjustment is made at this stage. The numbers who would be excluded if very small establishments of under 20 are excluded is likely to be very small (less than 7 percent) and hence any bias from this omission is likely to be small. If equal value legislation is believed to likely affect only the large establishments of 200 or more than only about half of the otherwise potential workforce would be affected. In such circumstances the potential numbers discussed so far could be cut in half.

Within the Same Establishment

Equal pay legislation applies only to comparisons within the same establishment. Thus establishments that are completely sex segregated or female jobs that do not have male jobs of comparable worth cannot be candidates for equal value comparisons as it pertains to male-female wage differentials (Meeker, 1981, p.673). Such situations, however, are likely candidates for equal employment opportunity legislation.

Even a small number of males in an establishment, however, is all that is required for an equal value comparison to have the potential to be made within the establishment. However, if there are only a small number of male-dominated jobs it is unlikely that a substantial number of equal value cases would be forthcoming. Comparisons have to be made and the fewer the groups to compare, the less likely that comparisons can be made.

It is extremely difficult to assess the potential quantitative importance of this factor so as to exclude those in completely sex segregated establishments. To my knowledge such data is simply not available by establishment (as opposed to occupation or industry). Since the number of completely sex segregated establishments is likely to be small (again as opposed to occupations within the establishment) and since the numbers are not readily available and are likely to be dwarfed by other adjustments to arrive at a realistic number, no adjustment for this factor is made.

NUMBERS IN SEX SEGREGATED OCCUPATIONS

Equal value legislation has been proposed in part to overcome the limitation that conventional equal pay legislation cannot involve comparisons across different jobs and hence cannot deal with occupational segregation which is generally regarded as the main contributor to that portion of the wage gap that results from labour market discrimination. Hence the main scope for equal value legislation pertaining to female-dominated jobs where the absence of males in the same job in the same establishment precludes the application of conventional equal pay legislation. Mixed occupations are much more likely to have both males and females doing substantially similar work in the same establishments and hence to be candidates for conventional equal (i.e., substantially similar) pay legislation. Male-dominated jobs are also less likely to be candidates for equal value legislation because females in those jobs again are likely to have numerous males to make a substantially similar work comparison within the same establishment and hence to utilize conventional equal pay legislation. It is with female-dominated jobs that comparisons with males so as to use conventional equal pay legislation becomes difficult and hence where the potential for equal value legislation becomes the greatest.

Obviously any definition of what constitutes a "female-dominated occupation" will be arbitrary. However, a number of sources have utilized the figure of 70 percent or more female as indicating a female-dominated occupation (State of Washington study by Norman Willis Assoc.; Minnesota, 1982, p.19; Gold, 1983, p.49; Walmsley, Ohtsu and Verma, 1980, p.9). It is also the figure used by the Women's Bureau of the U.S. Department of Labor to identify segregated jobs (Blumrosen, 1980 , p.103).

Table 2.2 indicates the number of females as a proportion of the labour force for seventy-nine 3-digit occupations in Ontario as of the Census year 1981. Such detailed information is only available through Census tabulations and hence more current estimates will have to be extrapolated. The last column designates the predominantly female occupation (70 percent or more females) by an "F". In total there were

TABLE 2.2-- FEMALES AS A PROPORTION OF LABOUR FORCE

BY 3-DIGIT OCCUPATION, ONTARIO 1981

Occupation	Both Sexes	Females	Females/ Total	Predominantly Male(M),Fema (F) or Both(
otal Labour Force	4,548,410	1,918,475	.422	-
ccupation not applicable (unemployed)	75,585	44,380	.587	-
11 Occupations (employed labour force)	4,472,825	1,874,100	.419	-
11 Gov't Officials & Administrators	22,975	5,115	.223	M
13/114 Other Managers & Administrators	189,900	41,510	.219	M
17 Management & Administration	60,380	37,195	.616	B
11 Physics & Sciences	15,670	2,665	.170	M
13 Life Sciences	7,580	2,235	.295	M
14/215 Architects & Engineers	62,365	3,800	.061	M
16 Other Occupations in Arch. & Engineering	46,960	5,170	.110	M
18 Math, Statistics, Systems Analysis, etc.	32,525	8,545	.263	M
31 Social Sciences	11,700	4,800	.410	B
33 Social Work & Related Fields	30,600	21,305	.696	B
34 Law & Jurisprudence	17,815	3,760	.211	M
35 Library, Museum & Archival Science	8,765	6,685	.763	F
39 Other Occupations in Social Science	5,050	2,970	.588	B
71 University Teaching	17,755	5,140	.289	M
73 Elementary & Secondary School Teaching	120,555	77,085	.639	B
79 Other Teaching & Related Occupations	34,220	19,290	.564	B
11 Health Diagnosing & Treating	22,170	4,015	.181	M
13 Nursing, Therapy & Related Assistants	122,040	112,460	.922	F
15 Other Occupations in Medicine & Health	38,085	27,450	.721	F
31 Fine & Commercial Art; Photography	23,420	10,070	.430	B
33 Performing and Audio-visual Arts	15,685	4,530	.289	M
35 Writing	15,730	7,215	.459	B
37 Sport and Recreation	12,460	5,665	.455	B
11 Stenographer and Typing	182,755	180,285	.986	F
13 Book-keeping, Accounting etc.	286,595	246,655	.861	F
14 Office Machine & Electronic data Proc. Ops.	46,195	35,095	.760	F
15 Material Recording, Scheduling and Dist.	110,545	27,590	.250	M
16 Library, File and Correspondance Clerks, etc.	22,680	19,170	.845	F
17 Reception, Info., Mail, Message Distribution	89,690	64,830	.723	F
19 Other Clerical Occupations	126,955	95,510	.752	F
13/514 Sales Occupations, Commodities	349,770	158,680	.454	B
17 Sales Occupations, Services	67,055	23,160	.345	B
19 Other Sales Occupations	11,680	3,585	.307	B
11 Protective Service Occupations	85,220	10,985	.129	M
12 Food & Beverage Preparation	190,520	128,995	.677	B
13 Lodging & Other Accomodation	29,170	17,865	.612	B
14 Personal Service Occupations	60,100	48,080	.800	F
16 Apparel & Furnishings Service	14,710	10,115	.688	B
19 Other Service Occupations	137,300	52,795	.385	B

TABLE 2.2-- FEMALES AS A PROPORATION OF LABOUR FORCE
BY 3-DIGIT OCCUPATION, ONTARIO 1981
(continued)

Occupation	Both Sexes	Females	Females/ Total	Predominantly Male(M),Femal (F) or Both(B
11 Farmers	56,785	8,415	.148	M
13 Farm Management	9,335	1,855	.199	M
18/719 Other Farming, Horticulture etc.	89,905	30,230	.336	B
11 Mineral Ore Treatment	3,690	215	.058	M
13/814 Metal Processing and Related Occupations	42,130	2,770	.066	M
15 Clay, Glass and Stone Occupations	8,270	1,345	.163	M
16/817 Chemicals, Petrol., Rubber, Plastics etc.	21,480	4,120	.192	M
21/822 Food, Beverage & Related Processing	50,215	15,880	.316	B
23 Wood Processing	7,225	1,020	.141	M
25 Pulp and Papermaking	12,790	965	.075	M
26/827 Textile Processing	14,680	7,980	.544	B
29 Other Processing	3,135	1,135	.362	B
31 Metal Machining	50,415	3,205	.064	M
33 Metal Shaping and Forming	78,650	8,440	.107	M
35 Wood Machining	4,460	685	.154	M
37 Clay, Glass, Stone & Related Machining	4,345	880	.203	M
39 Other Machining & Related Occupations	9,285	1,255	.135	M
51/852 Fabricating and Assembly, Metal Products	61,890	11,395	.184	M
53 Fab., Assemb., Installing, Repair-Elec. Eqpt.	64,385	20,675	.321	B
54 Fab., Assemb., & Repairing - Wood Products	15,470	2,680	.173	M
55/856 Fab., Assemb.&Repair-Textiles,Fur&Leather	63,415	46,875	.739	F
57 Fab., Assemb., Repair - Rubber, Plastic, etc.	20,285	6,360	.314	B
58 Mechanics & Repairman (not electrical)	123,420	2,025	.016	M
59 Other Fabricating, Assembling & Repairing	41,760	11,680	.280	M
71 Excavating, Grading, Paving & Related Occup.	29,430	335	.011	M
73 Elec.,Power,Ltg & wire erect.,Install.&Repair	46,165	1,705	.037	M
78/879 Other Construction Trades	169,225	2,850	.017	M
11 Air Transport Operating	4,810	250	.052	M
13 Railway Transport	9,855	340	.035	M
15 Water Transport	3,625	120	.033	M
17 Motor Transport Operating	131,125	11,775	.090	M
19 Other Transport & Related Equip. Operating	2,535	140	.055	M
51 Printing and Related Occupations	31,850	9,915	.311	B
53 Stationary Engine and Utilities Equip. Oper.	18,000	350	.019	M
55 Electronic & Related Communications Eqpt. Oper.	3,620	715	.198	M
59 Other Crafts and Equipment Operating	4,250	1,830	.431	B
919 Other Occupations	32,055	4,860	.152	M

Source: Statistics Canada, Census of Canada 1981, Population: Labour Force Occupation Trends, No. 92-920, Table 1, Ottawa, 1983.

Notes: a. 70% or more male denoted by M; 70% or more female denoted by F; otherwise denoted by B.

883,095 females in such predominantly female occupations in Ontario, constituting 46 percent of the total female labour force of 1,918,475 or 19.4 percent of the total Ontario labour force of 4,548,410. (The corresponding figures expressed as a percent of the labour force are respectively 47.1 percent and 19.7 percent).

This number is likely to represent the group most likely to be potentially affected by equal value legislation as opposed to conventional equal pay legislation. Clearly, others in mixed or predominantly male occupations could instigate equal value (in which case the number is an underestimate) and clearly not all those in predominantly female occupations will push for equal value (in which case the number is an overestimate). Nevertheless, the biases do work in the opposite direction and it is a number that is probably more realistic than the total female labour force.

Since both female and male pay would increase if wages in female-dominated jobs increased as a result of equal value legislation then it would be appropriate to include the number of males in the predominantly female jobs. This would bring the number of persons potentially affected by equal value legislation by virtue of their being in predominantly female jobs to 1,047,275 persons or 23 percent of the total labour force.

This number based on predominantly female occupations would be different if different levels of aggregation were used in the occupational designations. Specifically if a more disaggregated, narrowly-defined occupation designation were used in Table 2.2 it is likely that the proportion of workers in female-dominated jobs would be slightly higher since females would likely be clustered in the lower paying sub-occupations within some of the mixed occupations in the more aggregate groups of Table 2.2. For example, a "mixed occupation" of Table 2.2, if broken down into three sub-occupations, may result in two mixed sub-occupations and one now predominantly female sub-occupation. Hence, the numbers in predominantly female occupations would likely increase if more narrowly-defined occupations were used and for this reason the numbers in predominantly female occupations is likely to be a conservative estimate of the numbers potentially affected by equal value legislation.

These figures based on the detailed occupations from the Census data can be used to adjust the figures from the Labour Force Survey, as given in Table 2.1, to get a hypothetical number that reflects the proportion of workers in female-dominated jobs. That is, from Table 2.2 the 883,095 females in predominantly female jobs represented 46 percent of the total female labour force of 1,918,475. Assuming that this same ratio held for the more current 1983 Labour Force figures of Table 2.1 would imply that 906,660 (i.e., .46 x 1,971,000) females in 1983 could be potentially affected by being in predominantly female jobs. Further assuming that the same ratio of .46 in predominantly female jobs held for each of the various components of the labour force, would yield the potential numbers as given in column 3 of Table 2.3. (The first two columns and four rows of Table 2.3 are simply a repeat of the 1983 figures of Table 2.1).

TABLE 2.3 -- COMPONENTS OF THE 1983 ONTARIO LABOUR FORCE IN PREDOMINANTLY FEMALE OCCUPATIONS

Component of Labour Force	All occupations		Predominantly female occuptions	
	Female	Total	Female	Total
	(1)	(2)	(3)	(4)
1. Labour Force	1,971,000	4,570,000	906,660	1,051,100
2. Employed Labour Force	1,768,000	4,096,000	813,280	942,080
3. Paid Workers	1,629,000	3,727,000	749,340	857,210
4. Full-time Paid Workers	1,303,000	3,440,000	599,380	791,200
5. Covered by Act, Paid Workers[d]	1,466,100	3,354,300	674,406	771,489
6. Covered by Act, Full-time Paid Workers[e]	1,172,700	3,096,000	539,442	712,080

Source: Rows 1-4 of columns (1) and (2) as in 1983 figures from Table 2.1. As outlined in the text, column (3) is .46 times column (1) and column (4) is .23 of column (2) reflecting the proportion of each component of the labour force assumed to be in female-dominated occupations. Rows 5 and 6 reflect the fact that about 90 percent of the workforce is under provincial jurisdiction and hence covered by the Act.

Notes:
a. As discussed in the text, 70 percent or more female.
b. As discussed in the text, .46 of column (1).
c. As discussed in the text, .23 of column (2).
d. As discussed in the text, .90 of row 3.
e. As discussed in the text, .90 of row 4.

Similarly if one more realistically assumes that the wages of both males and females in predominantly female jobs can increase because of equal value legislation then the proportion of males and females in predominantly female occupations is the relevant proportion to use. As indicated previously, based on the 1981 Census figures this implies 1,047,275 persons (males and females) or 23 percent of the Ontario labour force. Applying this same proportion to the various components of the updated 1983 labour force yields the last column of Table 2.3.

In summary, the figures of column 4 in Table 2.3 probably reflect the more reasonable range on the potential numbers whose wages could increase directly as a result of equal value legislation in Ontario. These numbers reflect the fact that direct adjustments are more likely to occur for both males and females in predominantly female occupations. And while this may understate the numbers because persons in mixed or even predominantly male occupations may be directly affected, they may also overstate the potential range of numbers since only those in larger establishments are likely to be affected and the legislation allows comparisons only within the same establishment and some establishments (again perhaps smaller ones) may not have comparison groups. Whether these biases offset each other is an open question, however, they do work in opposite directions.

Within column 4 the numbers in the last two rows reflect the more reasonable range of potential numbers that could be affected by equal value legislation since they reflect the restriction for the fact that only employed, paid workers covered by the Employment

Standards Act would be affected (i.e., the unemployed, self-employed and those under federal jurisdiction are excluded from potential coverage). Thus, the potential number of persons who could be affected by equal value legislation would be 771,489 if both full- and part-time workers are included and 712,080 if only full-time workers are considered.

INCREMENTAL NUMBERS BEYOND CONVENTIONAL EQUAL PAY LEGISLATION

Equal value legislation, if it were legislated, would not be a completely new policy imposed on a world with no other legislative initiatives pertaining to the elimination of discriminatory male-female wage differentials. Rather, it is an extension of existing legislative initiatives in that area, basically to enable comparisons across jobs that may be dissimilar in the nature of the work required (and hence that are beyond the pervue of conventional equal pay legislation) albeit they are similar in the value of the work as determined by a job evaluation procedure. Thus the incremental cost associated with moving from conventional equal pay for substantially similar work to the broader concept of equal pay for work of equal value would depend upon the incremental number of people who are likely to be affected by the legislative change from substantially similar work to work of equal value.

Unfortunately there is no obvious way of determining what those additional numbers are likely to be. An estimate of a 10 to 15 percent increase in the number of violations was suggested[3] for Ontario if it moves to the "composite" approach whereby comparisons are allowed if jobs of substantially the same level of work are similar in the composite of skills, effort, responsibility and working conditions rather than having to be similar in each and every one of the components. This change is unlikely to involve nearly as many new potential cases as would the change to equal value which would not require that the jobs involve substantially the same kind of work in which case comparisons could be made across dissimilar jobs, as long as their "value" was similar, as determined by job evaluation procedures.

Thus an increase of at least 15 percent above the existing number of Ontario violations under conventional equal pay could be expected under equal value legislation, and while the number is likely to be substantially higher than a 15 percent increase, there is no easy way of determining how much larger. In fact, at the equal value conference referred to earlier, no one was able even to suggest the likely increase in the number of cases that would result from a move from conventional equal pay to equal value. Certainly most of the Ontario female workforce would be potentially affected; however, the actual number of persons whose wages would be directly affected is indeterminate.

To a certain extent, as discussed previously, by focusing only on persons in predominantly female jobs (i.e., 70 percent or more female) one is already focusing on those incremental numbers that are likely to be potentially affected by equal value as opposed to conventional equal pay legislation. That is, females in the mixed or predominantly male occupations are more likely to have male comparison groups for whom conventional equal pay comparisons can be made. Alternatively stated, by excluding persons in mixed or predominantly male jobs one is already excluding those who are already more likely to be covered by conventional equal pay, and focusing on the incremental numbers likely to be potentially affected by any policy change to the equal value concept. Hence, in the absence of any further information the focusing on persons in predominantly female occupations is considered here as already encompassing the aspect of dealing only with the incremental numbers beyond conventional equal pay legislation and no further adjustment for this factor is made.

Clearly some females in mixed or predominantly male jobs may receive compensation under equal value legislation perhaps because they were less likely to have pushed their case, or comparisons were not possible, under conventional equal pay. In such circumstances, a number of employees based only on predominantly female occupations would understate the potential number of employees who could be affected by the change to equal value legislation. Such an understatement is unlikely to be substantial, however, relative to the fact that the number who are now potentially affected is certainly going to be much larger than the number that will be actually affected.

In focusing on the additional numbers who are likely to be affected by any policy change from conventional equal pay to equal value, it is important to recognize that the corresponding cost estimates are those associated with the policy change. These are incremental to the existing level of cost associated with existing conventional equal pay policy. Obviously the incremental costs are only a component of the total cost associated with the new policy superimposed on the existing policy. Thus, the issue we are addressing is the cost associated with moving from conventional equal pay to equal value and not the final level of cost associated with equal value. The latter figure would include both the incremental cost associated with equal value plus the existing cost associated with conventional equal pay policies.

ACTUAL NUMBERS BASED ON FEDERAL CASES

The biggest uncertainty associated with estimating the number of persons likely to be affected by equal value legislation occurs in trying to estimate what proportion of the potential number of persons who could be affected actually will be affected. It is unlikely that all who potentially could be affected (e.g., all those in predominantly male or female jobs) actually will be affected if for no other reason that it is unlikely that all receive unequal pay for work of equal value. More importantly even if all did receive unequal pay for work of equal value it is unlikely that all of this would be corrected by any simple policy initiative. Just as it is unlikely that conventional equal pay has eliminated all discriminatory wage differentials within its pervue of substantially similar jobs so it is unlikely that equal value legislation will remove all discriminatory wage differentials emanating from its broader pervue of jobs of comparable worth. The question then becomes: How does one ascertain the expected actual number of persons from the pool of potential candidates whose wages are likely to be increased as a direct result of equal value legislation?

One logical way to try to determine such a number is to look at other jurisdictions, notably at the federal level and in Quebec, where equal value legislation prevails, and to see if the actual numbers involved there would shed any light on the numbers that would be expected in Ontario. Unfortunately this task is complicated by the fact that it is not obvious as to which year of the application of the legislation in the other jurisdictions would be relevant. Taking the initial year of operation in one of the other jurisdictions as a proxy for the expected numbers in the initial year of operation in Ontario would not likely be an accurate comparison since the other jurisdictions moved slowly in the initial years in part because of the new ground that was being broken and in part because of a desire to establish a solid precedence from which to build future cases. It is more likely that Ontario would begin at a level that is commensurate with the more recent levels of activity in those jurisdictions with equal value legislation.

With respect to the federal jurisdiction,[4] as of the end of 1982, there are only two settled cases that are particularly relevant for shedding light on possible numbers that could be involved in the Ontario situation. Those two cases involved 475 librarians (predominantly female) whose pay was raised to that of historical researchers (predominantly male) when the case was settled in December 1980, and

3300 general service workers in female dominated cafeteria, laundry and personal service categories whose pay was raised to that of workers in predominantly male warehouses, building and custodial service sectors, in a case settled in March 1982. The other cases involved situations that likely could have been handled under conventional equal pay legislation and/or they involved only a small number of persons (nurses compared to health care technicians, four directors of nursing compared to other hospital directors; one clerk CR4 versus a clerk CR5; building servicewomen compared to building servicemen) or they involved discriminatory classification systems rather than equal value comparisons (registered nursing assistants compared to orderlies). Thus the federal situation has involved only about 3775 workers (475 librarians and 3300 general service workers) whose wages have been increased as a direct result of equal value legislation as opposed to conventional equal pay legislation. Also, this was over a time span between 1980 and 1982 implying an average number per year of slightly over 1000.

As indicated previously the federal jurisdiction in Canada covers approximately 10 percent of the labour force. This amounts to approximately 1,190,400 of the 11,904,000 persons in the labour force in 1981, the middle year of the 1980-1982 time period over which these equal value cases occurred. Thus the proportion of the federal workforce who received wage increases directly as a result of equal value legislation would be .00317 (i.e., 3775/1,190,400) based on the numbers between 1980 and 1982 and .00084 (i.e., 1000/1,190,400) based on a rough annual average of these numbers. The higher proportion may be the more accurate portrayal if one assumes that Ontario's situation would approximate what the federal authorities have built up over the last few years.

There are, in fact, a number of reasons to suggest why the proportion of employees who actually receive compensation as a result of equal value would be considerably higher in Ontario than in the federal jurisdiction. First, geographic concentration may make enforcement easier in Ontario than in the more dispersed federal jurisdiction. Second, being part of the Employment Standards Act, equal value in Ontario, if it were instituted, would be carried out by regular inspections and not just complaints. Third, interest groups in Ontario tend to be active and informed and this may facilitate the enforcement of equal pay. Fourth, Ontario would have the experience of the federal jurisdiction to follow and hence may not have to be extremely cautious in establishing precedence in its early cases. Fifth, when legislation is instituted in Ontario it tends to be supported through the provision of means for enforcing the legislation; hence, enhancing the likelihood of its effectiveness. Lastly, the proportion of employees in the private as opposed to public or quasi-public sectors is higher in Ontario than in the federal jurisdiction, and the extent of discriminatory wage differentials tends to be larger in the private as opposed to public sectors, implying more scope for the application of equal value legislation.

For these various reasons the proportion of employees whose wages are likely to be increased by equal value legislation is likely to be greater in Ontario than in the federal jurisdiction. Thus, the higher figure of .00317 based on the librarians and general service workers, even though they were over a three year period, is likely to be a conservative estimate of the proportion of workers who would be involved should Ontario institute equal value legislation. Applying this proportion of .00317 to the Ontario labour force of 4,570,000 in 1983 (Table 2.1) implies that the wages of 14,487 employees would be increased directly as a result of the application of equal value legislation in Ontario.

ACTUAL NUMBERS BASED ON QUEBEC CASES

Since Quebec also has equal value legislation, a similar exercise as with the federal jurisdiction could be used to provide an estimate of the actual proportion of employees who may be affected by the application of equal value legislation in Ontario. In Quebec, however, as in the federal jurisdiction, the vast majority of cases have involved comparisons of substantially similar jobs and hence they could have been carried out through conventional equal pay legislation in Ontario. In only "a few instances" was it necessary to utilize the principle of equal value based on the companies' existing job evaluation schemes.[5]

In 1978,[6] 24 female office workers in Quebec North Shore Paper were compared with male production workers and awarded an annual increase of $16,830 or $701 per worker plus a retroactive one-year payment of

$25,914 or $1,080 per worker. In 1979, 203 female employees in Val-Cartier industries were awarded a lump-sum payment of $150 each.

Given the small number of employees involved, the Quebec situation is unlikely to be representative of what would happen in Ontario if Ontario moved to equal value. This is further corroborated by the fact that since June 1976 under the Quebec Charter only 20 cases have involved settlements under either conventional equal pay (i.e., substantially similar work) or equal value,[7] whereas in Ontario since an even later date (April 1, 1980) 146 cases have been settled under conventional equal pay alone.[8] If comparisons between the actual enforcement of conventional equal pay is any guide, Ontario is likely to have much more active enforcement of equal value legislation, if it were instituted. How much more, is really indeterminant. Given such indeterminancy the actual numbers involved in the Quebec application of equal value will not be used in the study to provide estimates of what may happen if Ontario followed the equal value procedure.

NUMBERS BASED ON SAME PROPORTION AS STATE OF WASHINGTON CASE

At the other extreme in the State of Washington Court decision of 1982 (to be discussed in more detail in the next chapter) approximately 15,500 or 34.4 percent of the approximately 45,000 classified personnel were awarded equal value compensation. Applying this proportion to the 3,096,000 full-time, paid workers in Ontario covered by the Employment Standards Act (Table 2.3) would yield a potential 1,065,024 employees whose wages could be directly increased as a result of the application of equal value legislation.

This proportion of 34.4 percent is somewhat higher than the 23 percent who were in predominantly female jobs in Ontario (the latter figure being used to derive the estimate in Table 2.3 of 712,080 employees who could be affected). The difference could reflect the possibility that a larger portion of the workforce in Ontario would be in predominantly female jobs if more disaggregated industries were used in arriving at the 23 percent figure. Also, the larger 34.4 percent figure could reflect the possibility that wage awards went to persons who were not in predominantly female jobs or the possibility of greater sex segregation in the State of Washington situation.

In any case, the possibility that 34.4 percent of the workforce (i.e., 1,065,024 employees) is likely to be affected represents an extreme upper bound since it is highly unlikely that the same proportion of the Ontario workforce would be affected as in the State of Washington award. That award represents a single case in the State; most employees throughout the State of course have not been directly affected. Nevertheless, the numbers do suggest an upper bound based on the assumption that the Ontario workforce would be directly affected in the same proportion as the award from the State of Washington legal case.

COPP'S ESTIMATE

In her resolution that the principle of equal pay for work of equal value be enshrined into Ontario's Employment Standards Act, Ms. Sheila Copps, the MPP for Hamilton Centre, suggested that "the legislation would potentially affect only up to 10 percent of the jobs in

Ontario" (Ontario, Legislative Assembly, 1983, p.2277). Taking the employed labour force from Table 2.1 as representative of the number of jobs in Ontario, this would imply that up to 409,600 jobs (i.e., .10 x 4,096,000) would be potentially affected. If by the phrase "potentially" affected it was meant that these were the jobs where it was possible to apply equal value (e.g., dissimilar jobs under a job evaluation scheme) then the actual number of cases forthcoming from this potential pool of candidates would be much smaller. In addition, the phrase "up to" implies that this would be an upper bound and the actual figures again would be much smaller. Since no further information is given as to what that actual figure would be, the 10 percent figure of 409,600 is used here as an additional upper bound estimate.

SUMMARY OF ACTUAL NUMBERS LIKELY TO BE AFFECTED

Clearly the previous discussion indicates that there is likely to be considerable uncertainty about the range of actual numbers of employees who are likely to be affected by a move to equal value legislation in Ontario. Based on that discussion, however, four figures stand out as representative of the likely range of estimates. These figures are: (1) 1,065,024 based on the ratio of 34.4% of the relevant workforce being affected, as was the case in the State of Washington's court award; (2) 712,080 full-time, paid workers, based on the 23% of the relevant Ontario workforce being affected by being in predominantly female (i.e., 70% or more female) occupations and covered by the Employment Standards Act, as given in the last row of the last column of Table 2.3; (3) the 409,600 estimate provided by Sheila Copps based on 10% of the jobs in Ontario; and (4) the 14,487 estimate based on the assumption that the same proportion of the Ontario workforce would be affected as the proportion in the federal jurisdictions over the 1980-1982 period. These figures, with their rounded approximations, are given in Table 2.4. The rounded numbers will be used in the subsequent analyses and multiplied by per person cost estimates derived from a variety of sources to arrive at total expected annual cost estimates.

Obviously numbers other than those given in Table 2.4 are possible and the previous discussion indicated a variety of such numbers. In most cases it would be simple to substitute one of these other numbers and re-estimate the overall cost calculations. For example, if it was felt that part-time workers should also be included then the figure of 771,489 from Table 2.3 could be substituted for the 712,080 figure of Table 2.4. Or if it was felt that realistically only employees in large establishments of 200 or more would be affected, then as discussed in the text, the 712,080 figure of Table 2.4 would be approximately halved.

Care should be taken in the case of such alternative estimates, however, since they may already have been accounted for, in part at least in the figures of Table 2.4. For example, the estimate in Table 2.4 by Ms. Copps and the one based on the proportion of federal workers affected by their equal value legislation, both likely reflect the fact that such legislative initiatives are likely to be stronger in large establishments; hence, it would be inappropriate to reduce

TABLE 2.4 -- SUMMARY, ALTERNATIVE ESTIMATES OF ONTARIO WORKERS LIKELY TO BE AFFECTED BY EQUAL VALUE LEGISLATION

Source of estimate	Unrounded	Rounded
1. 34.4% of relevant workforce,[a] as in the State of Washington court award	1,065,024	1,065,000
2. 53% of relevant workforce[a] in predominantly female occupations	712,080	712,000
3. Copp's estimate, 10% of Ontario jobs	409,600	410,000
4. .317% of Ontario labour force, based on application of equal value in federal jurisdiction	14,487	14,000[b]

Source: Text.

Notes:

a. The relevant workforce is taken here to be the 3,096,600 full-time, paid workers in Ontario covered by the Employment Standards Act, as given in column (2) of Table 2.3.

b. The rounding here compensates for the fact that 10% of the labour force may be a conservative estimate of the number of persons under federal equal value jurisdiction. A proportion of 10.5% would imply a coverage of 1,249,920 (i.e., .105 x 11,904,000) which in turn implies .00302 (i.e., 3775/1,249,920) were directly affected by equal value in that jurisdiction which in turn implies 13,801 (i.e., .00302 x 4,570,000) would be affected by a corresponding application to the Ontario workforce.

these figures by one-half to reflect the application to establishments of 200 or more.

In spite of these other possibilities, the numbers of Table 2.4 are likely to encompass the range of numbers that are likely to be affected. Unfortunately, narrowing the substantial range to a more reasonable range of estimates is the more difficult task. To a large extent this will depend upon the likely extent of the actual application of the legislation. If it is vigorously applied then the numbers could approach and even exceed the higher range of numbers; if it is cautiously applied at first then it would approach the lower numbers suggested by the proportion of the federal jurisdiction affected.

FOOTNOTES TO CHAPTER 2

1. Information provided by Mr. Ted Ulch, Canadian Human Rights Commissioner, telephone conversation, April 9, 1984. Current estimates of the precise numbers of employees under the federal Human Rights Commission are, in fact, difficult to establish. For 1977, Tarnapolsky (1982, p.82) estimates that 1,162,323 persons or 11.6% of the employed labour force were covered, approximately half in the private sector, one quarter in the public sector as government employees under the Public Service Staff Relations Act and one quarter in the quasi-public sector of federal enterprises and agencies, the Canadian forces, RCMP and Military Reserves. According to Mr. Ulch (telephone conversation, April 18, 1984), however, there is some question as to whether uniform personnel in the RCMP and armed forces are covered under the equal value Section 11 of the Human Rights Code; hence, "realistically" currently between 10 - 11% of the employed labour force would be under federal human rights jurisdiction. In view of this slight discrepancy between the 11.6% figure for 1977 and a "realistic" current coverage of 10 - 11%, a conservative estimate of 10% will be used in our study.

2. Statistics Canada, Type of Organization and Size of Establishment, 1975, No. 31-210. This publication was discontinued after 1976 and its sequel, Manufacturing Industries of Canada, No. 31-203 does not give employees by establishment size.

3. Statement by Mr. Doug Kelly, Ontario Ministry of Labour, Employment Standards Branch, Conference on "Equal Pay for Work of Equal Value", sponsored by the Ontario Status of Women Council, Toronto, February 3 and 4, 1984.

4. Information provided by the Ontario Ministry of Labour.

5. Statement by Alberte Ledoyen, Quebec Human Rights Commission, Conference on "Equal Pay for Work of Equal Value", sponsored by the Ontario Status of Women Council, Toronto, February 3 and 4, 1984.

6. Information provided by the Ontario Ministry of Labour.

7. Statement by Alberte Ledoyen, Quebec Human Rights Commission, Conference on "Equal Pay for Work of Equal Value", sponsored by the Ontario Status of Women Council, Toronto, February 3 and 4, 1984.

8. Statement by Doug Kelly, Ontario Ministry of Labour, Employment Standards Branch, Conference on "Equal Pay for Work of Equal Value", sponsored by the Ontario Status of Women Council, Toronto, February 3 and 4, 1984.

3. STATE OF WASHINGTON COMPARABLE WORTH STUDIES

Probably the most discussed cost estimate[1] -- and certainly the one that is based on the most sophisticated calculations -- is the $37.9 million annual cost estimate for the year 1977 associated with full implementation of a measure of comparable worth for the state employees of the State of Washington. (A revision of this figure based on an actual court award is discussed subsequently). Since this figure is so often cited and it is associated with a fairly sophisticated job evaluation procedure, it is worth elaborating the methodology in some detail.

PHASE I STUDY, 1974

The first study was commissioned by the State of Washington in 1974, and it was to be applied to the civil service, following a job evaluation of top State management jobs, designed to bring management salaries in line with those in the private sector. The analysis, done by Willis and Associates (1974) was based on a job evaluation of 121 out of approximately 3000 job classifications that were predominantly (i.e., 70 percent or more) male or female, covering about 13,612 employees. The content of the jobs were provided from questionnaires from a sample of employees assisted by a task force of State employees and consultants. The jobs were evaluated by an evaluation committee according to a factor-point method whereby points were given for four factors: knowledge and skills, mental demands, accountability and working conditions. Different ranges of points were involved for each category with the actual range being 61-280 for knowledge and skills, 8-140 for mental demands, 11-160 for accountability and 0-20 for working conditions. The points were then simply summed across the four categories to get a total point score (the implicit assumption being that a "point" is to be "worth" the same for each category, given the restriction to the range of points).

The factor points were then related to the average salary of each job (arithmetic average of the lowest and highest salary) in a "scatter diagram" and the relationship between the two depicted by a payline derived both by sight (commonly called "eyeballing" the data) and by regression analysis[2] (a procedure that involves finding the linear relationship between points and pay that minimizes the sum of squared deviations from the payline). The payline indicates the existing relationship between state salaries and job evaluation points[3]; specifically, it indicates the dollar salary increment associated with a one point increase in the job evaluation point score -- it is the "shadow price" or "implicit price" or "worth" associated with a job evaluation point.[4]

This analysis was done separately for the 59 predominantly male jobs and the 62 predominantly female jobs with a separate payline being depicted for the male and female jobs. On average the female-job payline was approximately 80 percent of the height of the male-job payline (slightly lower for the higher point and hence higher paying jobs). This indicates that the pay in predominantly female jobs was approximately 80 percent of the pay in predominantly male jobs when both have the same job evaluation factor point score (the latter taken to be a measure of "comparable worth"). A number of alternative courses of action were then suggested, however, cost estimates were not provided in this first study.

PHASE II STUDY, 1976

The second State of Washington Comparable Worth Study (Willis, 1976) involved an update and expansion of the earlier analysis and the estimation of a comparable worth salary line showing the relationship between State salaries and job evaluation point scores. The salary line, estimated by linear regression on 206 classifications, was:

$$S = \$518 + \$2.51 \text{ (evaluation points)}.$$

This indicates that State salaries tended to be equal to \$518 plus \$2.51 for every point score on the job evaluation system (i.e., the "implicit" or "shadow" price of each point score was "worth" \$2.51). For example, individuals who would have a total point score of 100 would tend to have a monthly salary of \$518 + \$2.51 (100) or \$769. This relationship is one of "central tendency" with some actual categories being paid above or below the expected salary they would get if paid according to the estimated relationship between job evaluation scores and salary.

An annual cost in 1977 dollars of \$37.9 million was estimated based on the assumption that actual salaries below the salary line (i.e., below what they would be expected to be if they had been paid according to the implicit worth of the job evaluation system) were brought up to the salary line. Salaries that were above the payline would not be brought down to the payline but rather would continue to be paid at prevailing rates. In a statistical sense this involves bringing negative deviations from the regression line to the regression line but leaving positive deviations to persist; that is, it involves compensating those who are underpaid relative to their "worth" as evaluated by a job evaluation scheme but not penalizing those who were overpaid.

LACK OF DETAILED INFORMATION

Of what relevance is this $37.9 million cost estimate for the State of Washington employees to the Ontario situation? More specifically, is it possible to utilize that cost figure to shed any light on the possible cost of implementing equal value legislation in Ontario? Unfortunately insufficient detail is given in the study itself to provide precise answers. In particular, the number of full-time equivalent staff as of December 1976 (that number being used in deriving the cost estimate) is not given[5]; hence, it is not possible to calculate a cost estimate per full-time equivalent State employee. Such a per person cost estimate, if it were available, could be updated and applied, perhaps with some modification, to the full-time equivalent of the Ontario workforce to get a comparable cost estimate for Ontario.

Also it is not clear from the study whether the cost estimate refers to all State employees or only to those who were in the 206 job classifications that were evaluated (out of approximately 3000). Presumably it is only those employees in the classifications used in the analysis since the estimate referred to the "annualized cost for movement of classifications presently below the Comparable Worth line to the line" and those classifications not utilized in the analysis would not have a job evaluation score to be a candidate for being moved to the comparable worth line. The question then becomes: how many employees were in the job classifications and would receive a wage increase to bring them up to the comparable worth line?

ALTERNATIVE ESTIMATES OF EMPLOYEES INVOLVED

According to the Phase I study of 1974 virtually all of the classifications that were below the comparable worth line were predominantly (i.e., 70 percent or more) female. These would be the jobs that would receive the salary increases to bring them up to the comparable worth pay line. Also, according to the Phase I study (p.3) there were a total of 9,115 females in the 62 predominantly female occupations out of 121 predominantly male or female occupations involving 13,612 employees (no statement being made about whether that is a full-time equivalent number or full-time and part-time).

Updating 1974 Figures and Inclusion of Males

Since both males and females in the predominantly female jobs would receive the wage increases associated with equal value applied to these predominantly female jobs then the 9,115 figure has to be adjusted upwards to reflect the small number of males who are also in those jobs. Based on the 1981 Census figures for Ontario discussed in the previous chapter there were 883,095 females and 164,180 males in the predominantly female jobs (defined as 70 percent or more female as in the State of Washington study). That is, the proportion of males to females in the predominantly female jobs was 164,180 / 883,095 = .186 . If the State of Washington had the same proportion of males in the female-dominated jobs this would imply .186 (9115) = 1695 males were in those jobs for a total of 1695 + 9115 = 10,810 males and females in 1974. Assuming a 10 percent growth rate in the number of State employees over the 2 year period between 1974 and 1976[6], the date of the cost estimate, would imply 10,810 (1.1) = 11,891 employees would have received the wage increase for being in the predominantly female jobs.

Predominantly Female Jobs in Classification in 1976

A second way of estimating the actual numbers involved would be to make use of the information on the new number of occupations involved in the 1976 update since presumably it was the new number of occupations for which the cost estimate was based. The Phase II study in 1976 involved 206 occupations compared to 121 in the Phase I study of 1974. No statement is made about how many of these are predominantly female. However, assuming the same ratio of predominantly female jobs of 62 / 121 as in the Phase I study would imply about 62 / 121 (206) = 105 predominantly female jobs. Assuming the same number of persons in each female dominated job as in the 1974 study (i.e., 9115 persons in 62 jobs or 9115 / 62 = 147 per job classification) would imply a total of 147 x 105 = 15,435 persons in predominantly female jobs and in those jobs in the classification scheme which could be given a job evaluation scheme, whose pay would be brought up to the comparable worth pay line.

Court Decision of 1982

A third alternative calculation for the number of employees affected could be made from information provided in the subsequent court decision between the American Federation of State, County and Municipal Employees and the State of Washington. Such proceedings arose out of the failure of the State of Washington to eliminate the unequal pay for work of equal value as found in its comparable worth studies. As reported in the Bureau of National Affairs (1983) coverage of the case for those jobs for which comparable worth was based, "There are approximately 45,000 classified personnel ..." and "Plaintiff's Class is constituted entirely from these classified employees". Whether this number refers to the number at the time of the comparable worth study or to the time of the court proceedings in 1982 is not clear; however, the latter would be implied by the phrase "there are".

The report then goes on to indicate that of these 45,000 "there are approximately 15,500 employees who are included within the Plaintiff's Class action" (p.D7). These were the numbers that were used in the previous chapter to obtain the 15,500 / 45,000 = .344 or 34.4 percent of a relevant workforce that may be subject to wage increases as a result of the implementation of comparable worth.)

This number of 15,500 based on the 1982 court decision is almost identical to the 15,435 number based on the previously discussed update of the 1974 figures to the year 1976 when the cost estimate was based. If the numbers from the court decision referred to the numbers at the time of the 1976 update (which is unlikely because of the phrase "there are approximately 15,500 employees") or if the number of employees had not changed between 1976 and 1982 (which is unlikely for reasons to be indicated subsequently) then these two alternative ways of estimating the number of employees in 1976 would reinforce each other. However, it is likely that the court decision referred to the number of employees at the time of the decision in 1982 and not the updated study in 1976, and it is likely that the number of employees did increase between 1976 and 1982.

A rough correction for this can be made from the fact that throughout the U.S. the number of state employees had grown from 853,000 in 1977 to approximately 1,000,000 in 1982[7] or an increase of approximately 17 percent. Had this national increase applied to the State of Washington the number of employees affected by the equal value award would therefore have been approximately 13,250 (i.e., 15,500 / 1.17).

1984 Update

A fourth alternative calculation for the number of employees involved in the cost estimate of the 1976 study can be made from current information on the number of employees. As of January 1984 there were 13,865 employees in the Department of Personnel System in predominantly female jobs below the salary line.[8] The 1976 study, however, was based on persons in both the Department of Personnel (DOP) and the Higher Education Personnel (HEP) with .6319 (i.e., 5760 / 9115) of the employees being in the DOP system.[9] If the same ratio were to apply to 1984 then this would suggest a total of 21,942 (i.e., 13,865 / .6319) in both systems. Also the new 1984 numbers were based on 284 job classes from a 1980 update of the earlier study as opposed to the 206 classes of the 1976 study. Assuming the same number in each job classification (i.e., 21,942 / 284 = 77.26 persons) implies that there would have been only 15,916 (i.e., 206 x 77.26) persons had there been only 206 classifications in 1984.

Lastly, the 1984 figure would have to be deflated by the employment growth between 1976 and 1984 to arrive at a hypothetical number of employees in 1976. As discussed previously, with respect to the Court Decision of 1982, the national growth in state employees between 1977 and 1982 was approximately 17 percent. By January 1984 the growth would probably have been approximately 20 percent. Hence, deflating the 1984 number of 15,916 by the growth rate of 20 percent yields 13,263 employees as of the 1976 cost estimate. This estimate is almost identical to the 13,250 employees estimated from information in the 1982 Court award.

All Predominantly Female Jobs

The previous calculations were based on the assumption that only those employees involved in the job classification were included in the costing analysis since only they would have a job evaluation score so that they could be assessed comparable worth. It is possible, however, that the cost estimate from the comparable worth study was based on raising the wages of all employees in female-dominated jobs whether or not they were included in the job evaluation analysis. A fifth set of rough calculations can be used to arrive at a possible number for such employees.

According to the U.S. Bureau of the Census (1975, p.57) there were 81,826 state employees in the State of Washington in 1975 and 56,009 of these were full-time. Updating this to December 1976, the time period of the equal value evaluation, would suggest approximately 85,000 state employees of which 59,000 may be full-time and 26,000 part-time. Assuming two part-time workers equals one full-time equivalent implies 13,000 full-time equivalents for the part-time workers for a total of 59,000 + 13,000 = 72,000 full-time equivalents. Assuming that approximately one-quarter of these are in predominantly female jobs (an approximation based on the 1981 Ontario labour force figures as previously discussed) would yield 72,000 / 4 = 18,000 workers in predominantly female jobs whose wages would be raised by the comparable worth assessment.

All Females

A sixth alternative calculation for the number of employees affected could be made assuming that the upward wage adjustments would occur for all of the female sector, whether they be in predominantly female jobs or not. This would ignore the fact that some males would have their pay increased directly as a result of the legislation, however, this may be offset by the fact that some females would be unaffected. Based on the previously discussed 72,000 full-time equivalents and that 40 percent of state employees throughout the U.S. were females in 1976 (U.S. Bureau of Labour Statistics, 1982) implies approximately 28,800 females affected.

ALTERNATIVE COSTS AND IMPLIED EARNINGS GAP AND MALE PAY

Column 1 of Table 3.1 restates the six alternative estimates of the possible number of employees whose wages would be increased directly as a result of the equal value assessment in the State of Washington in 1976. Since the total cost estimate was $37,900,000 then these numbers of employees can be used to estimate the implied per person cost estimates as given in column 2.

On face value these do not seem unusually large or small magnitudes to be involved in such an exercise. However, a number of further calculations can be made to serve as a check on the numbers and perhaps to narrow the range of estimates. These calculations involve assessing the implied overall male-female earnings gap for jobs of comparable worth and the implied male salary.

According to the Phase I report (p.20) the average male-female wage gap for jobs of comparable worth as given by the same job evaluation score was approximately 20 percent. In this exercise of bringing the predominantly female jobs to the comparable worth payline only about half or 10 percentage points of the male-female wage gap would have been

TABLE 3.1 -- ALTERNATIVE ESTIMATES, STATE OF WASHINGTON, 1977

Assumption on whose pay is increased	Persons affected	Per person cost[a] ($)	Implied gap[b] ($)	Implied male earnings[c] ($)
	(1)	(2)	(3)	(4)
1. Update and inclusion of males	11,891	3,187	6,375	31,873
2. Court decision of 1982	13,250	2,860	5,720	28,600
3. 1984 update	13,263	2,858	5,716	28,580
4. Predominantly female jobs in classification	15,435	2,455	4,910	24,550
5. All predominantly female jobs	18,000	2,106	4,212	21,060
6. All females	28,800	1,316	2,632	13,160

Source: Text. Listed in descending order of magnitude of the per person cost estimate rather than the order in which they are discussed in the text.

Notes: a. Total cost of $37,900,00 divided by persons affected as per column (1).

b. Two times column (2) as discussed in the text.

c. Five times column (3) as discussed in the text.

closed since the predominantly male jobs were kept above the payline and paid at the prevailing rate (presumably on the assumption that comparable worth legislation would not involve the downward adjustment of the predominantly male occupation rates). This implies that the overall 20 percent earnings gap is about twice the per person cost estimate which represents the 10 percent gap. These implied male-female earnings gaps are given in column 3 of Table 3.1.

These in turn can be used to calculate the average male salary that would be implied by such an overall gap. That is, the male-female salary differences for jobs of comparable worth is $y_m - y_f = D$ where D is the gap as given in column 3 of Table 3.1 . Also the ratio of female / male earnings for comparable worth was approximately $y_f / y_m = .8$. Therefore, $y_f = .8\,y_m$ and therefore $y_m - .8\,y_m = D$ or $y_m(1 - .8) = D$ or $y_m = 5\,D$. That is, the implied male salary, indicated in column 4 is 5 times the gap of column 3.

This is the implied average pay in predominantly male jobs not the average male pay in all jobs since only predominantly male jobs were used to estimate the payline. The pay in predominantly male jobs would likely be higher than the average male pay since the predominantly male jobs are likely to be at the top of the pay scale.

These implied annual salaries in predominantly male jobs can be compared with actual male salaries in all jobs. That is, monthly earnings of full-time state employees in the State of Washington were $1087 in October 1975 (U.S. Bureau of the Census, 1975, p.57). This implies an annual salary of \$1,087 x 12 = \$13,044 for all employees in 1975. Updating this to 1977 would yield an average salary of slightly less than \$15,000 for both sexes. Since male salaries tended to be about 20 percent more than female salaries for the same job evaluation score this implies average male salaries of approximately \$16,667.[10] The average salary in predominantly male jobs (to compare with column 4) is likely to be somewhat higher than this because such jobs are likely to be at the higher end of the pay spectrum. Since this lower bound of the actual average salary in predominantly male jobs is within the range of estimates given in column 4, this suggests that the per person cost estimate (from which the implied male earnings are derived) are within a range of reasonable estimates.

Narrowing the range of cost estimates from Table 3.1 into what could be considered the more reasonable range of estimates is not a straightforward task. However, it seems likely that the sixth per person cost estimate of \$1,316 is outside of the range both because it is an outlier with respect to the other estimates which are about double in size and because it is unlikely that the 1976 cost estimate referred to upgrading the pay of all females.

In the absence of any further information as to which of these remaining alternative estimates is correct perhaps a reasonable compromise would be to utilize the per person cost estimate of \$2,455 which is based on the assumption that the equal value upgrading would apply to all persons in the predominantly female jobs in the updated number of job classifications and which lies roughly half-way between the other alternative reasonable per person cost estimates of $2,106 (estimate 5) and the clustering of estimates 1, 2 and 3 around $3,000. The assumptions underlying the $2,455 figure also seem to be the most reasonable, albeit they too are likely to be subject to some error. In view of the rough nature of the calculation perhaps a range of per person cost estimates of $2,000 - $3,000 for the State of Washington employees would be reasonable with a "best guestimate" being $2,455 in 1977 dollars.

UPDATING AND ADJUSTMENT IF RAISED TO MALE PAY

The per worker cost of approximately $2,455 is only a rough estimate based on the numerous assumptions necessary given the unavailability of the data. It would be substantially higher if the policy involved raising the predominantly female wages to the predominantly male wages rather than simply to the comparable worth line since the predominantly male wages were invariable above the comparable worth line (that line being like a weighted average of the overvalued male and undervalued female jobs). In fact the per person cost estimate would be twice the estimates provided in column 2 of Table 3.1 if equal value were to raise the wages in the predominantly female jobs to those in the predominantly male jobs. This would correspond to closing the gap as that gap is given in column 3 of Table 3.1 .

This highlights the fact that movement towards comparable worth as utilized in the State of Washington study is only one of many concepts of movement towards comparable worth. It involves raising (predominantly female) salaries to a comparable worth line which is a weighted average of "overvalued" male jobs and "undervalued" female jobs, where over- and under-valued are relative to an estimated comparable worth line. It does not involve a reduction in the pay of the overvalued male jobs, although realistically this is likely to occur over time through slower increases in male pay, given budget limitations. Such subsequent slower increases in pay in the predominantly male jobs are likely to offset some of the cost increases. Since the reductions in male pay are likely to occur in the form of slower increases and hence relative not absolute reduction then this would not violate any likely qualifiers in the legislation preventing a reduction in male rates.

In the absence of any reduction in the rate of male pay the new rates of pay in the predominantly female jobs (now paid according to the comparable worth line) would still be less than the pay in male jobs of comparable worth (since they have not been reduced to the comparable worth line but remain overvalued). Thus a new estimated comparable worth line would be roughly half-way between the predominantly male pay and the new predominantly female pay. Paying females according to the new comparable worth payline would again reduce the gap by roughly one-half. This process could continue ad infinitum with approximately one-half the gap being closed each time, but some of the gap always remaining. For example, based on the State of Washington figures the original female/male earnings ratio of .80 for jobs of comparable worth would move to .90 on the first round, .95 on the second, .975 on the third, and so forth.

This highlights that the initial cost figure of $37.9 million in the first round would be approximately $37.9 / 2 million in the second round, 37.9 / 4 million in the third round, 37.9 / 8 in the fourth and 37.9 / 16 in the fifth round. After seven rounds this would converge towards a total cost estimate of about 75 million or slightly less than twice the original estimate. This would provide an automatic phasing-in of the cost of converging towards comparable pay to the male jobs, but the total cost would be approximately twice the original cost of the first iteration. Based on the ultimate attainment of comparable pay with the comparable worth male jobs (a criterion not explicitly stated in the State of Washington study which based its cost estimate only on the initial move to a comparable worth line) the earlier cost estimate of approximately $2,455 per worker would be approximately double or $4,910 associated with ultimately converging to comparable worth defined as attaining the male pay for the same job evaluation points. This latter figure would be relevant for legislative initiatives that defined equal value in terms of attaining the male pay rate for work of equal value, rather than some notion of an equal worth payline. This in turn is likely to be the case if the legislation forbid a reduction in male pay rates, albeit this may *de facto* occur slowly over time. Thus, if one assumes that equal value legislation involves raising the pay of persons in predominantly female jobs to the pay of those in predominantly male jobs (rather than to some equal pay line from a job evaluation procedure) or if one assumes that the application of an equal payline procedure will continue in subsequent evaluations until the gap is closed then the per person cost estimates are double those given in column 2 of Table 3.1 and in fact they correspond to the magnitude of the gap as given in column 3 of Table 3.1 .

These cost estimates are based on 1977 dollars. From 1977 to the middle of 1983 in the United States, average compensation per hour in the business and in the nonfinancial corporate sector increased by approximately 62 percent.[11] Therefore, updating these to 1983 would involve multiplying the per person cost estimates of Table 3.1 by 1.62 . Such an updating to 1983 dollars is given in column 3 and 4 of Table 3.2 which also repeats the 1977 figures for comparison purposes.

Based on the previous discussion suggesting that the first five estimates were likely to encompass the range of true cost estimates this suggests that the per person cost of attaining equal value by raising the pay of persons in predominantly female jobs to reflect comparable worth (as given by a "comparable worth line" would range from $3,411 to $4,633 with a "best guess" being $3,977 or roughly $4,000 in 1983 dollars. The figures would be twice this amount if one assumed the same comparable worth job evaluation procedure to continue in subsequent rounds or if the procedure involved paying those in predominantly male jobs that are "overvalued" with respect to a comparable worth assessment.

IMPLIED COST FOR ONTARIO

Assuming -- and this is a large assumption -- that these per worker cost estimates are accurate estimates for the State of Washington,

TABLE 3.2 -- UPDATED ALTERNATIVE COST ESTIMATES, STATE OF WASHINGTON STUDY, 1983

Assumption on whose pay in increased	1977 per person cost		1983 per person cost	
	If raised to equal payline	If gap closed	If raised to equal payline	If gap closed
	(1)	(2)	(3)	(4)
1. Update and inclusion of males	3,187	6,375	5,163	10,327
2. Court decision of 1982	2,860	5,720	4,633	9,265
3. 1984 update	2,858	5,716	4,630	9,260
4. Predominantly female jobs in classification	2,455	4,910	3,977	7,954
5. All predominantly female jobs	2,106	4,212	3,411	6,823
6. All females	1,316	2,632	2,132	4,264

Source: Table 3.1 for columns (1) and (2). Columns (3) and (4) are obtained by multiplying columns (1) and (2) respectively by 1.62 to reflect the increase in compensation per hour between 1977 and 1983, as discussed in the text.

to what extent are they relevant to apply to all or some portion of the Ontario workforce to simulate the expected cost of Ontario moving to an equal value concept? The answer would seem to be that they are somewhat but not completely relevant. They are based on a public sector wage gap and most empirical studies indicate that the wage gap is smaller in the public than the private sector. This suggests that the per person cost estimate would be somewhat higher when applied to the Ontario private sector.

Based on the previous discussion suggesting that the first five estimates were likely to encompass the range of true cost estimates this suggests that the per person cost of attaining equal value by raising the pay of persons in predominantly female jobs to reflect comparable worth (as given by a "comparable worth line") would range from $3,411 to $4,633 with a "best guess" being $3,977 or roughly $4,000 in 1983 dollars. The figures would be twice this amount if one assumed the same comparable worth job evaluation procedure to continue in subsequent rounds or if the procedure involved paying those in predominantly female jobs the pay of those in predominantly male jobs that are "overvalued" with respect to a comparable worth assessment.

The crucial issue, however, for arriving at a total cost estimate for Ontario pertains to the relevant number of employees that are likely to be affected. Table 3.3 illustrates the implied cost estimates for Ontario based on alternative estimates of the number of employees affected (as discussed in Chapter 2) and alternative per person cost estimates from the State of Washington case (as discussed in this chapter).

TABLE 3.3 -- ALTERNATIVE COST ESTIMATES[a] FOR ONTARIO IMPLIED BY STATE OF WASHINGTON COMPARABLE WORTH STUDY, 1983
(millions of dollars)

Assumption on whose pay is increased (and per person cost estimate)[b]	Numbers affected in Ontario[c]			
	1,065,000	712,000	410,000	14,000
	(1)	(2)	(3)	(4)
1. Update and inclusion of males ($5,163)	5,498.6	3,676.1	2,116.8	72.3
2. Court decision of 1982 ($4,633)	4,934.1	3,298.7	1,899.5	64.9
3. 1984 update ($4,630)	4,931.0	3,296.6	1,898.3	64.8
4. Predominantly female jobs in classification ($3,977)	4,235.5	2,831.6	1,630.6	55.7
5. All predominantly female jobs ($3,411)	3,632.7	2,428.6	1,398.5	47.8
6. All females ($2,131)	2,269.5	1,517.3	873.7	29.8

Notes: a. Each entry is the product of the alternative number that would be affected in Ontario as given by the four columns, and the alternative per person cost estimates as given by the six rows.

b. Column (3) of Table 3.2.

c. Rounded figures from Table 2.4.

Clearly the range of cost estimates is substantial, going from 29.8 million to almost 5 billion dollars. It is narrowed somewhat if one restricts the comparisons to columns 2 to 4 and rows 1 to 5 on the grounds, as discussed in the text, that these appear to be the more reasonable estimates. Nevertheless, even here the range is substantial, going from 47.8 million to over 3 billion dollars. Most of the difference reflects the large drop in the number of employees who are likely to be affected if one assumes an application of the principle of equal value to the proportion affected in the federal jurisdiction when their equal value legislation was applied. As discussed previously, the extent to which the legislation is actively enforced will determine its cost implications.

An alternative way of providing a cost estimate for Ontario would be to simply take the total $37.9 million cost estimate for state employees in the State of Washington and compare that to Ontario after adjusting for differences in the size of the employed labour forces in the two areas. For example, Washington had approximately 85,000 state employees at the time of the evaluation (updated from the 1975 number of 81,826 as discussed previously in the text). Thus the cost per state employee would be approximately $37,900,000 / 85,000 = $446. (This is not the wage increases for each employee associated with comparable worth but rather the cost amortized over the number of state employees.)

If the same cost per state employee were to apply to the 3,372,000 paid workers in Ontario in the whole Ontario workforce in 1977 (Table 2.1) this would imply a total cost estimate of $1,503,912,000 or approximately 1.5 billion dollars in 1977. Updating this to 1983 dollars (multiplying by 1.62 to reflect the increase in compensation per hour over that period as discussed previously) implies a total cost of $2,436,337,440 or approximately 2.4 billion dollars by 1983.

This is obtained by taking the total cost associated with equal value for state employees in the State of Washington and applying this to all Ontario employees. That is, there were approximately 3,372,000 / 85,000 = 39.7 times as many employees in Ontario in 1977 as there were state employees in the State of Washington; hence, the cost for all of Ontario would be approximately 39.7 times as much as the $37.9 million cost associated with state employees in the State of Washington (i.e., 39,7 x $37.9 m = $1.5 b) in 1977 dollars or $2.4 billion in 1983 dollars. This estimate is in line with the middle range of estimates of Table 3.3 .

FOOTNOTES TO CHAPTER 3

1. The study is discussed, for example, in Treiman (1979, pp.26-29); Bureau of National Affairs (1981, p.46); Gold (1983) and Remick (1980, 1981).

2. A nontechnical discussion of the regression procedure is given in Risher and Cameron (1981-82). The use of regression and other statistical procedures in employment discrimination litigation is discussed in Connolly and Peterson (1982).

3. In job evaluation procedures such a payline, conventionally estimated from the relationship between pay and point scores for key jobs for which the relationship is deemed appropriate (e.g., for jobs with market determined rates or where the union and employer deem the rate to be appropriate), can be used to interpolate the pay that would be appropriate for jobs where there is uncertainty about the "correct" rate but for which there is a job evaluation scheme. This would simply involve using the payline to estimate the pay that would be forthcoming for that job evaluation score if it were to be reimbursed according to the relationship between pay and points from the key jobs from which the payline was estimated.

   In addition, even if such a payline were not needed to interpolate the appropriate pay for nonkey or non-benchmark jobs, deviations from the line would indicate job salaries that are "out of line" with the central tendency between pay and factor points. This information could be used to subsequently adjust salaries to be commensurate with their job evaluation score.

4. This highlights the similarities of this procedure with the hedonic price technique used in econometrics to estimate the "shadow price" of certain measurable quality attributes of commodities. Basically this technique involves regressing the price of a commodity on a number of its measured characteristics; the estimated regression coefficient indicates the price change that is associated with a unit change in the quality characteristics -- it is the "shadow price" or "worth" of the quality characteristics. This procedure has been used, for example, to measure the compensating wage associated with hazardous working conditions -- the implicit price that the market pays for risk.

   This also highlights the fact that the regression procedure in the State of Washington study could have been used to estimate the relationship between pay and factor points separately for each of the four factors by simply entering the separate factor scores as four separate independent variables. The resulting four regression coefficients would then have indicated the extent to which the pay changes are different for the different compensable factors. In essence, by summing the point scores and entering the total as a single independent variable the analyst is restricting the relationship between pay and point scores to be the same across the four compensable factors.

5. The consulting firm that conducted the study, Norman D. Willis Associates, also was unable to provide the numbers of employees for whom the cost estimates were based. They suggested contacting Mr. Robert Boysen, Manager, Standards and Surveys, Department of Personnel, State of Washington who did provide subsequent numbers that were used to provide one estimate of the numbers, as discussed subsequently. (Telephone discussion with Mr. Norman Willis, March 13, 1984).

6. Exact figures are not readily available; however, this 10 percent is just slightly under the 11 percent growth rate for all state employees in the U.S. between 1976 and 1978 (U.S. Department of Labor, 1982).

7. U.S. Bureau of Labor Statistics, 1982, gives figures of 853,000 in 1977 and 981,000 in 1981. The 1981 number was updated in the text to 1,000,000 based on visual inspection of the trend.

8. Memo from Bob Boysen, Manager, Standards and Surveys, Department of Personnel, State of Washington to Leonard Nord, Director, Department of Personnel, January 26, 1984 (provided by Bob Boysen).

9. Washington State, 1982 Comparable Worth Study Report, Department of Personnel, 1983, p.3.

10. An average pay of $15,000 between the two sexes implies $(y_m + y_f) / 2 = 15{,}000$ assuming equal numbers of males and females. Also $y_f = .8\, y_m$ as given in the text. Therefore, $y_m + .8\, y_m = 30{,}000$ and $y_m = 16{,}667$.

11. U.S. Bureau of Labor Statistics, Employment and Earnings (January 1984), p.142.

4. COST ESTIMATES FROM OTHER CASES

Although the State of Washington study has received the most attention, other cases do exist which have yielded equal value settlements. These can usually be converted to per person cost estimates and then to total cost estimates for Ontario based on alternative assumptions with respect to the number of employees likely to be affected. These cases include the State of Washington court award, their implementation plan, and cases in San Jose, Minnesota, a number of estimates for the United States as a whole, and estimates based on the Canadian federal and Quebec equal value cases. Each of these will be discussed in turn.

AFSCME VS. STATE OF WASHINGTON

The case of the American Federation of State, County and Municipal Employees vs. the State of Washington, decided by Judge J. Tanner, was already referred to in the discussion of estimating the number of employees who were likely involved in the original cost estimate of $37.9 million provided in the Comparable Worth Study. The decision (reported in Bureau of National Affairs, Daily Labor Report, December 15, 1983) awarded the plaintiffs equal pay for work of equal value as determined by the earlier Comparable Worth Study. The award was to go to all female and male employees in sex segregated jobs (defined as jobs that are 70 percent or more female) in the state classification system. As indicated previously approximately 15,500 employees or 34.4 percent of the State's 45,000 classified personnel were in such sex segregated jobs.

The Court decision itself, in December 1983, did not assign a dollar amount to be awarded to the Plaintiffs but rather ordered that the Plaintiffs were entitled to injunctive relief including back pay to September 1979 (when the charges were filed). While the Court itself did not assign a dollar amount in the award, a number of other sources have indicated dollar magnitudes.

The New York Times (January 1, 1984), for example, indicated that "a Federal Judge in Washington state ordered the state government to pay its women workers $800 million to $1 billion in back pay and wage increases". Time magazine (February 6, 1984, p.26) stated that the award "could cost the state more than $400 million over the next 18 months, if it stands". This translates into a 12 month annual cost of $266.67 million. The National Law Journal (January 2, 1984, p.24) cites union calculations indicating that "of Washington's potential liability, more than $800 million comes from back pay and pensions. The raises required to bring current workers up to the comparable worth level, the state estimates, would be about $114 million, slightly less than 10 percent of the state payroll". Business Week (July 1983, p.169) indicated that the union "is asking $500 million in back pay for 10,000 workers, and the union calculates that equalizing male and female pay would raise the state's $4 billion annual budget by 2%." This latter figure translates into a total annual cost estimate of $80 million (i.e., .02 x $4 billion), excluding the earlier figure for back pay. The Minnesota (1982, p.7) Council on the Economic Status of Women reports the union as indicating that "implementation of pay equity will cost the state approximately $188 million over a two year biennium" or $94 million over a year.

In addition to these magnitudes associated with media coverage of the award, other events associated with the case do provide indirect information that may be useful. For example, in December 1976, Governor Evans did include a $7 million budget appropriation to begin implementation of comparable worth, although this appropriation was removed by the subsequent Governor Ray in 1977. Multiplying this $7 million figure by 1.62 to reflect the average increase in compensation per hour between 1977 and 1983 (U.S. Bureau of Labor Statistics, 1984, p.142) yields an updated 1983 cost estimate of $11.34 million. Also, by 1983 the State legislation did pass an appropriation of $1.5 million to increase the salaries by $100 a year for occupants of job classifications for which the current salary was 20 percent below the comparable worth range (Bureau of National Affairs, Daily Labor Report, December 15, 1983). These two total cost estimates of $11.34 million and $1.5 million are likely to provide extreme lower limits since they were not designed to attain comparable worth but rather, respectively, to "begin implementation" and to increase the salaries of those below comparable worth by $100 per person.

These figures from budgetary appropriations along with the previously discussed ones from media reports are summarized in column 1 in Table 4.1. Also, column 3 gives a per person cost estimate by dividing the total cost estimate by the 15,500 employees actually involved in the award (except for the Business Week estimates which were based on 10,000 persons).

Clearly the range of estimates is extremely large and trying to narrow that range to arrive at a reasonable set of estimates is extremely difficult. The lower estimates of $97 and $732 per person are extreme lower bounds, associated with budgetary appropriations designed to simply begin the implementation procedure. Also, the upper end of the range of estimates do not seem to be ones that would likely ever apply to any substantial portion of a workforce in moving to equal value. It is almost inconceivable to imagine adjustments in the neighbourhood of $50,000 per person for a large number of workers in equal value adjustments, even if a large portion of this reflects backpay. It could be that these larger cost awards, without being explicit about it, referred to expected costs over the expected tenure of the workers. In such circumstances cost estimates that explicitly referred to the "current" workforce would be more accurate portrayals of the current costs. These are the National Law Journal estimate of $7,355 and the Business Week current estimate of $8,000. These estimates are also quite close to the $7,954 figure previously given in Table 3.2 based on the assumption that the State of Washington comparable worth study involved the number of employees in predominantly female jobs in the classification scheme.

TABLE 4.1 -- ALTERNATIVE COST ESTIMATES, STATE OF WASHINGTON AWARD, 1983

Source	Total cost (millions)	Per person cost[a]
	(1)	(2)
1. New York Times, upper	$ 1,000	$ 64,516
2. New York Times, lower	800	51,613
3. Business Week, back pay	500	50,000
4. Time Magazine	266.67	17,205
5. Business Week, current	80	8,000
6. National Law Journal	114	7,355
7. Minnesota Council	94	6,065
8. Evans appropriation, updated	11.34	732
9. 1983 appropriation	1.5	97

Source: Text, listed in descending order of per person cost rather than the order in which they are discussed in the text.

Notes: a. Column (1) divided by 15,500 employees, except for the Business Week estimates which are based on 10,000 persons.

The implied total cost estimates for Ontario associated with the nine per person cost estimates of the State of Washington award and the four alternative estimates of the likely number of persons who would be affected in Ontario are given in Table 4.2. Clearly the range of estimates is substantial going from $1.4 million to $68.7 billion. Focusing on the last three columns of numbers affected as being the more reasonable range of numbers and row 5 and 6 as being the more reasonable per person cost estimates (for reasons discussed previously) narrows the range to between $1.4 million and $45.9 billion; nevertheless, this reduced range is still substantial, most of it being associated with the large drop in the number of employees being affected if one assumes the same proportion of the Ontario workforce being affected as the proportion who have been affected by the federal application of equal value in its jurisdiction.

Since the State of Washington award was given to the 15,500 employees in sex segregated jobs in the state classification system then this suggests the relevant numbers in Ontario that would be affected would be the 712,000 persons as indicated in column 2 of Table 4.2, based on the number of persons in sex segregated jobs in Ontario. The associated single cost estimate based on the National Law Journal per person estimate of $7,355 is $5.2 billion (row 6, column 2) for Ontario in 1983.

Other aspects pertaining to the State of Washington court decision may also be informative. For example, the real resource cost of litigation in this area may be substantial as evidenced by

TABLE 4.2 -- ALTERNATIVE COST ESTIMATES[a] FOR ONTARIO IMPLIED BY STATE OF WASHINGTON COURT AWARD, 1983
(millions of dollars)

Source of award estimate (and per person cost estimate)[b]	Numbers affected in Ontario[c]			
	1,065,000	712,000	410,000	14,000
	(1)	(2)	(3)	(4)
1. New York Times, upper ($64,516)	68,710	45,935	26,452	903
2. New York Times, lower ($51,613)	54,968	36,749	21,161	723
3. Business Week, back pay ($50,000)	53,250	35,600	20,500	700
4. Time Magazine ($17,205)	18,323	12,250	7,054	241
5. Business Week, current ($8,000)	8,520	5,696	3,280	112
6. National Law Journal ($7,355)	7,832	5,237	3,016	103
7. Minnnesota Council ($6,065)	6,459	4,318	2,487	85
8. Evans appropriation, updated ($732)	780	521	300	10
9. 1983 appropriation ($97)	103	69	40	1.4

Notes: a. Each entry is the product of the alternative number of employees that would be affected in Ontario as given by the four columns, and the alternative per person cost estimates as given in each of the rows.

b. Column (2) of Table 4.1.

c. Rounded figures from Table 2.4.

the statement of the court that "throughout the course of this litigation several witnesses were called by both parties, more than 200 exhibits comprising several thousand pages were offered into evidence, and numerous depositions and affidavits were submitted to the Court." (Bureau of National Affairs, Daily Labor Report, December 15, 1983, p. D-1). While such court actions would not be the practice in Canadian jurisdiction it does illustrate the complexities involved in equal value cases because of the intricacies of job evaluation procedures and the development of comparable worth references through such procedures as regression analysis. Such procedures would become more prevalent under equal value legislation and their costs should be considered as an aspect of any move to equal value. Unfortunately the costs are not simply transfers from one group to the other, as would be the case with equal value awards where the cost to those who lost (e.g., employers, taxpayers or persons who received more than their "value") would be offset by a corresponding gain to those who received the award. Rather, the costs of administering equal value involves real resource costs that will go to consultants, lawyers and those associated with the administration of the procedures.

The State of Washington case also reiterated an earlier Supreme Court decision dismissing a cost-justification defense in Title VII cases. Evidence provided by the Plaintiff in the case also indicated that "the cost of equalizing salaries for jobs with the same number of points would be approximately 10 times as much for predominantly female jobs as for predominantly male jobs" (Bureau of National Affairs, 1983, p.6). This is important because it suggests that by focusing the costs on the numbers involved in predominantly female jobs (defined as 70 percent or more female) one is capturing the vast majority of costs associated with a move to equal value legislation. That is, there is unlikely to be a great bias created by the omission of persons in predominantly male jobs who may also press for equal value awards.

WASHINGTON STATE IMPLEMENTATION PROCEDURE

Subsequent to the earlier Comparable Worth studies and the court award the State of Washington has conducted some analysis of the expected cost of implementing various forms of equal value legislation. The results are informative not only as a check on the previous estimates associated with the court awards, but also because they illustrate the sensitivity of the results to various assumptions with respect to how equal value legislation could be implemented. The results of the 1982 update, summarized in the Washington State Comparable Worth Study Report of 1982, indicate that to bring the wages of the 21,986 employees in the Department of Personnel who were below the comparable worth salary line up to the salary line would imply an annual cost of $68,860,152[1] or $3,135 per employee.

This figure, along with a subsequent update[2] and different figures based on different assumptions with respect to whose pay will be increased, are reported in Table 4.3. Column 4 indicates that the per person cost estimates are fairly close, ranging from $2,748 to $3,135. The differences between rows 1 and 2 are small, those differences

TABLE 4.3 -- ALTERNATIVE COST ESTIMATES, STATE OF WASHINGTON IMPLEMENTATION PLANS, DEPARTMENT OF PERSONNEL EMPLOYEES, 1983, 1984

Assumption as to whose pay is increased	No. of classes	No. of employees	Annual cost		
			Average percent	Per employee	Total ($millions)
	(1)	(2)	(3)	(4)	(5)
1. All classes below line, 1983	n.a.	21,986	n.a.	3,135	68.9
2. All classes below line, 1984	1,098	24,664	16.83	2,928	72.2
3. Predominantly female classes below line, 1984	318	13,865	18.70	2,844	39.4
4. All predominantly female classes, 1984	439	14,386	17.93	2,748	39.5

Source: Row 1 from memo to Joe Taller, Director, Office of Financial Management, from Leonard Nord, Director, Department of Personnel, State of Washington, January 14, 1983; Row 2 - 4 from memo to Leonard Nord, from Bob Boysen, Department of Personnel, State of Washington, January 26, 1984.

presumably reflecting only a year update. Whereas rows 1 and 2 are based on the assumption that all classes below the comparable worth line have their pay increased to the line, row 3 is based on the assumption that only those persons in predominantly female jobs will have their pay raised to the line. The latter is based on the implementation of the court award and the former is based on the implementation of the State plan (as stated in the January 26, 1984 memo from Bob Boysen to Leonard Nord). While the per person cost estimates are fairly similar (reflecting the fact that the gap for predominantly female jobs is fairly similar to other "undervalued" jobs that are not predominantly female, the total cost for raising the wages of all classes below the line rather than just predominantly female jobs is approximately twice as high, reflecting the fact that almost twice as many employees are involved. This highlights the possibility that cost estimates based on the assumption that only persons in predominantly female jobs will have their pay increased (e.g., the 712,000 figure used for Ontario from Table 2.3 and 2.4) could be almost twice as high if all persons whose pay was below the payline had their pay increased to the line.

The differences between rows 3 and 4 both in terms of employees and cost estimates are small reflecting the fact that predominantly female classes (column 4) are likely to be below the comparable pay line.

The implied percentage wage increases given in column 3 also give an indication of the relative magnitude of the wage increases associated with a move to equal value. These are percentage increases associated with the move to equal value; they do not include normal pay increases associated with such factors as inflation protection, merit or progress-through-the-ranks. In the State of Washington case, for example, a seven percent adjustment scheduled for 1983 would be added to these figures (memo from Nord to Taller, January 14, 1983) bringing the total percentage increase to more like 25 percent for those groups that would also receive an equal value adjustment.

Table 4.4 gives the alternative cost estimates for Ontario implied by the four alternative numbers of Ontario workers who may be directly affected by equal value and the four alternative cost estimates associated with implementation of equal value for the Department of Personnel employees in the State of Washington. The 1984 per person cost figures from rows 2 - 4 are utilized with 1983 estimates of the number of persons who may be involved because the 1984 figures were from a memo dated January 26, 1984 and it is not clear if the estimates refer to 1983 or 1984. If they refer to 1984 then the magnitudes should be deflated slightly to reflect 1983 estimates; alternatively stated the estimates of rows 2 - 4 in Table 4.4 may be inflated slightly if they refer to 1984 rather than 1983 per person cost estimates.

The estimates of Tables 4.3 and 4.4 also provide a rough guide on the reliability of the earlier estimates. The per person cost estimates of Table 4.3 tend to be approximately $3,000. Since they are based on calculations associated with known numbers with respect

TABLE 4.4 -- ALTERNATIVE COST ESTIMATES[a] FOR ONTARIO IMPLIED BY STATE OF WASHINGTON IMPLEMENTATION PROCEDURES, 1983 (millions of dollars)

Assumption as to whose pay is increased (and per person cost estimate)[b]	Numbers affected in Ontario[c]			
	1,065,000	712,000	410,000	14,000
	(1)	(2)	(3)	(4)
1. All classes below line, 1983 ($3,135)	3,339	2,232	1,285	44
2. All classes below line, 1984 ($2,928)	3,118	2,085	1,201	41
3. Predominantly female classes below line, 1984 ($2,844)	3,029	2,025	1,166	40
4. All predominantly female classes, 1984 ($2,748)	2,927	1,957	1,127	39

Notes: a. Each entry is the product of the alternative number that would be affected in Ontario as given by the 4 columns, and the alternative per person cost estimate is given by the 4 rows.

b. Column (4) of Table 4.3.

c. Rounded figures from Table 2.4.

to implementation of equal value they are likely to be more accurate than those of Table 3.2 where the more reasonable range of estimates was more like $4,000 (and which was based on assumptions with respect to the number of persons involved in the 1976 study) as well as the estimates of Table 4.1 where the reasonable range of estimates was more in the range of $7,000 - $8,000 (and which was based on various reported cost estimates associated with the court award). This suggests that the estimates associated with the planned implementation of equal value and with the earlier 1976 study, by being reasonably close to each other, are more likely to be accurate than those associated with the reports of the court award, which yielded estimates that were quite variable amongst themselves and that were high relative to the 1983 implementation plan and the 1976 study. Thus, the implied cost estimates for Ontario from Tables 3.3 (based on the 1976 study) and 4.4 (based on the implementation procedures) are likely to be more accurate than the estimate from Table 4.2 (based on the reports of the award).

SAN JOSE

Next to the State of Washington comparable worth study and the subsequent court award, the situation in San Jose has probably received the most attention, in part because it involved a nine-day strike by city workers in July 1981 over the specific issue of comparable worth. The union involved was the American Federation of State, County and Municipal Employees, a union that has been active in the equal value area, including the State of Washington court case. As indicated by Bunzel (1982, p.78), "What is important is that the comparability settlement with the city of San Jose was reached through collective bargaining, making this the first time the issue has ever been put on the table and negotiated."

The issue arose after a consultant's report by Hay Associates in 1978, as with the State of Washington comparable worth studies by Norman Willis Associates, estimated a comparable worth trend line relating actual pay to job evaluation scores as determined by an independent committee. The study found that female dominated jobs were paid 2 - 10 percent below comparable worth and predominantly male jobs were paid 8 - 15 percent above comparable worth (Bunzel, 1982, p.79). This would imply an overall gap of 10 - 25 percent between "undervalued" female jobs and "overvalued" male jobs.

Unfortunately as is typical in these situations reports on the cost of the settlement and the number of employees involved are somewhat conflicting. Nevertheless, in this particular case the differences are not great and they can often be accounted for; hence, reasonable cost estimates can be derived.

The union demand was for a "$3.2 million plan that would have brought all jobs to the trend line in four years" (Bunzel, 1982, p.80). This $3.2 million was based on an adjustment for female dominated jobs that were paid 2 - 10 percent less than the overall average for city workers in comparable jobs (Dun's Business Month, September 1981, p.136).

The actual agreed-upon settlement was for $1.4 million over two years for extra adjustments for about 750 women in "undervalued" female dominated jobs (Bunzel, 1982, p.77). The city's offer for the comparable worth adjustment component was for approximately $1.3 million over two years and would have affected approximately 700 employees (Bureau of National Affairs, 1981, p.35). The actual agreed-upon settlement for the comparable worth adjustment component was reported as slightly different amounts: $1.4 million over two years for 750 employees (Bunzel, 1982, p.77); $1.45 million "for several hundred female employees" (Bureau of National Affairs, 1981, p.35); $1.5 million for 750 employees (Business Week, July 18, 1983, p.170: Dun's Business Month, September 1981, p.136; Time, February 6, 1984, p.26; Monthly Labor Review, September 1981, p.51).

Clearly there is some discrepancies in the reported costs of the actual settlement (being $1.4, $1.45 and $1.5 million) and in the number of employees involved (700 or 750); nevertheless, these differences are not large (certainly relative to the differences reported for the State of Washington costs). Table 4.5 summarizes these alternative cost estimates and provides a per person cost estimate based on the alternative figures of 700 or 750 employees. The numbers range from a low of $1,733 per person based on the employer's initial offer to $4,267 based on the union's initial demand for a full adjustment to comparable worth, with the actual settlement being at or slightly under $2,000 per person.

TABLE 4.5 -- ALTERNATIVE COST ESTIMATE, SAN JOSE, 1981-82

Alternative estimate	Total cost (millions) ($)	Cost per employee	
		700 Employees ($)	750 Employees ($)
		(2)	(3)
Union demand, full adjustment	3.2	4,571	4,267
Actual settlement			
Time, Business Week, Dun's	1.5	2,143	2,000
BNA, Gold	1.45	2,071	1,933
Bunzel	1.4	2,000	1,867
Employer offer	1.3	1,857	1,733

Source: Text.

Table 4.6 translates these per person cost estimates to alternative total cost estimates for Ontario based on the four different assumptions with respect to the number of employees that would be affected. The slightly higher per person cost estimates of column 2 in Table 4.5 are used to compensate for the fact that if they were updated to 1983 figures they would be slightly higher. The total cost estimates range from $26 million to $4,868 million or slightly less than $5 billion.

MINNESOTA STATE EMPLOYEES

The State of Minnesota has also utilized a comparable worth analysis conducted by Hay Associates (comparable in methodology to the Norman D. Willis study for the State of Washington). The results, discussed in a report by the Commission on the Economic Status of Women (Minnesota, 1982, p.24) indicate that "the minimum cost estimate for pay equity represents the number of dollars needed to bring the salary for each female class up to the lowest salary for a male job with the same number of Hay points, or to the salary for the next lowest-rated male job where there is no male job with the same number of points. This minimum figure, including additional costs for social security and pension contributions, is about $20 million. The maximum cost estimate for pay equity represents the number of dollars needed to bring the salary for each of the female classes up to the highest salary for a male job with the same or fewer Hay points. This figure, again including social security and pension costs, is about $40 million." These figures to achieve pay equity represent, respectively, 2 - 4 percent of the total salary base for the state.

TABLE 4.6 -- ALTERNATIVE COST ESTIMATES[a] FOR ONTARIO IMPLIED BY SAN JOSE COSTS, 1983 (millions of dollars)

Alternative (and per person cost estimate)[b]	Numbers affected in Ontario[c]			
	1,065,000	712,000	410,000	14,000
	(1)	(2)	(3)	(4)
Union demand ($4,571)	4,868	3,255	1,874	64
Actual settlement				
$1.5 m. total ($2,143)	2,282	1,526	879	30
$1.45 m. total ($2,071)	2,206	1,475	849	29
$1.4 m. total ($2,000)	2,130	1,424	820	28
Employer offer ($1,857)	1,978	1,322	761	26

Notes:

a. Each entry is the product of the alternative number that would be affected in Ontario as given by the 4 columns, and the alternative per person cost estimate as given by the rows.

b. Column (2) of Table 4.5. The figures of column (2) are used here rather than the slightly lower figures of column (3) because the per person cost estimates are based on 1981-82 figures for San Jose, and these have not been adjusted upwards to reflect the slightly higher costs that would be implied by updating them to 1983.

c. Rounded figures from Table 2.4.

In 1983, subsequent to the comparable worth study, the legislature approved a biennial pay equity appropriation of $21.7 million representing 1.25 percent of state payroll to raise the pay of underpaid female-dominated jobs, with about 8,225 employees receiving the increases.[3] Most of the employees affected were clerical workers, state hospital workers and licensed practical nurses. If a similar amount is appropriated in 1985, pay equity will have been implemented over the four year period, 1983-1987.

Other reports give slightly different estimates of the amount involved and of the number of employees directly affected. The New York Times (January 1, 1984) reported that "In 1982, after a study showing widespread underpayment for female - dominated jobs, the state of Minnesota earmarked $22 million to upgrade women's pay ... Some 8,000 state employees, about a third of the state workforce, are now receiving adjustments." The National Law Journal (January 2, 1984) reports that "Minnesota last spring appropriated $21.8 million to cover the first of what will be four voluntary pay-equity increases for state employees in predominantly female job categories. The payments are expected to total about 4 percent of the state's payroll." Time magazine (February 6, 1984, p.26) cites the figure as $21.7 million for 1983 and Business Week (July 18, 1983, p.169) states "The state legislature, basing its decision on a study that found pay discrepancies for comparable jobs, earmarked 1.25 percent of its payroll over two years, $21 million, to upgrade the pay scales of 9,000 out of 33,000 employees. It will cost roughly the same in 1984-85 to close the gap." This highlights the fact that the earlier cost estimates were based on reducing the gap in comparable jobs; eliminating the gap would cost approximately twice the amount.

Table 4.7 summarizes the alternative cost estimates for the Minnesota state employees based on the three different reported numbers of employees involved. The figures are all fairly close except for the maximum figure given by the Commission on the Economic Status of Women based on a $40 million total cost estimate. Probably the most accurate figure is the $2,638 per employee based on the Commission update memo total cost of $21.7 million and the estimate of 8,225 employees involved; being closest to the source of information their updated figures are likely to be most accurate.

The estimates of Table 4.7 are based on a biennial appropriation and therefore annual cost figures would be one half the amount. However, as discussed previously the appropriation for 1983-84 would reduce but not close the gap; a similar biennial appropriation in 1985 would close the gap. That is, the cost of closing the gap would be twice the estimates of Table 4.7. Since these two opposing effects exactly offset each other (i.e., the annual estimates are one-half and the estimates of closing the gap are twice those of Table 4.7), the estimates of Table 4.7 can be thought of as the equivalent of the annual cost estimates associated with closing the gap.

Table 4.8 converts these per person cost estimates to total cost estimates for Ontario based on the four alternative assumptions with respect to the number of employees who would be affected. The variation

TABLE 4.7 -- ALTERNATIVE COST ESTIMATES, STATE OF MINNESOTA, 1983, 1984

Alternative source	Total cost (millions) ($)	No. of employees	Cost per employee[a] 8,000 ($)	8,225 ($)	9,000 ($)
	(1)	(2)	(3)	(4)	(5)
1. Commission, maximum	40	n.a.	5,000	4,863	4,444
2. New York Times	22	8,000	2,750	2,675	2,444
3. National Law Journal	21.8	n.a.	2,725	2,650	2,422
4, Commission update memo	21.7	8,225	2,713	2,638	2,411
5. Time	21.7	n.a.	2,713	2,638	2,411
6. Business Week	21	9,000	2,625	2,553	2,333
7. Commission, minimum	20	n.a.	2,500	2,431	2,222

Source: Text.

Notes: a. Calculated as the total cost of column (1) divided by the alternative reported number of employees.

TABLE 4.8 -- ALTERNATIVE COST ESTIMATES[a] FOR ONTARIO IMPLIED BY MINNESOTA COSTS, 1983
(millions of dollars)

Alternative source (and per person cost estimates)[b]	Numbers affected in Ontario[c]			
	1,065,000	712,000	410,000	14,000
	(1)	(2)	(3)	(4)
1. Commission maximum ($4,863)	5,179	3,462	1,994	68
2. New York Times ($2,675)	2,849	1,905	1,097	37
3. National Law Journal ($2,650)	2,822	1,887	1,087	37
4. Commission update memo ($2,638)	2,809	1,878	1,082	37
5. Time ($2,638)	2,809	1,878	1,082	37
6. Business Week ($2,553)	2,719	1,818	1,047	36
7. Commission minimum ($2,431)	2,589	1,731	997	34

Notes: a. Each entry is the product of the alternative number that would be affected in Ontario as given by the 4 columns, and the alternative per person cost estimate as given by the rows.

b. Column (4) of Table 4.7.

c. Rounded figures from Table 2.4.

in total cost from $34 million to $5,179 million or just over $5 billion comes about both because of the variation in the number of employees assumed to be affected in Ontario and the difference between the maximum figure cited by the Commission on the Economic Status of Women and the per person cost estimate from the other sources which tended to be similar.

OTHER U.S. ESTIMATES

Other global estimates have been reported for the likely costs if all of the United States were to follow a comparable worth policy. Most of these estimates were made in connection with a discussion of one of the previously mentioned cases. Their method of estimation is seldom made explicit; presumably they imply the application of comparable worth to the total U.S. labour force, both private and public sectors.

Fortune (September 11, 1978, p.59) estimates that "to raise the aggregate pay of the country's 27.3 million, full-time working women high enough so that the median pay for women would equal that of men would add a staggering $150 billion a year to civilian payrolls." This $150 billion figure also has been cited by Dun's Business Month (September 1981, p.136) and the New York Times (January 1, 1984). The National Law Journal (January 2, 1984) also suggested that the application of the State of Washington court award to the whole U.S. civilian labour force "could become precedent for additional cases involving as much as 10 percent of the nation's 1.5 trillion annual civilian payroll" or a total of $150 billion. The report also indicates that, "At the outset, most comparable worth cases are likely to be in the public sector, both supporters and opponents of the concept agree."

A job evaluation consultant of Hay Associates, cited in Time (February 6, 1984, p.26), indicates that "raising the wage scales of jobs traditionally held by women to eliminate disparities in the earnings of men and women would cost some $320 billion in added annual wages." In contrast, Business Week (December 17, 1979, p.69) cites the president of the Consulting Division of Lester B. Knight and Associates of Chicago as believing that "closing the gap between women's and men's pay could cost $2 billion a year on a national basis."

Presumably these figures refer to the cost associated with closing the overall male-female wage gap and not just the cost of applying comparable worth, albeit comparable worth can deal with a large portion of the overall gap (e.g., it is not confined to substantially similar jobs). Table 4.9 summarizes these alternative total cost estimates for the nation as a whole and provides the cost per employee, obtained by dividing the total cost by the 27.3 million full-time working women likely to be directly affected (as indicated by Fortune).

The differences between the estimate from Hay Associates and Fortune, Dun's, the New York Times and the National Law Journal can be reconciled somewhat by the fact that the former was made in 1984

TABLE 4.9 -- ALTERNATIVE NATIONAL COST ESTIMATES

Alternative source	Total cost ($millions)	Cost per employee[a] ($)
	(1)	(2)
Hay Associates	320,000	11,722
Fortune, Dun's, New York Times, National Law Journal	150,000	5,495
Knight's Associates	200	7.33

Source: Text.

Notes: a. Calculated as the total cost of column (1) divided by 27.3 million full-time working women as given by Fortune.

and the latter probably all stemmed from Fortune's estimate in 1978. The compounded increase in money wages that went on over that six year period would account for much of the doubling of the cost estimates.

The estimate by the consultant of Knight Associates does not seem reconcilable except perhaps by the possibility that the estimate was not meant to apply to the total number of full-time working women, but rather to a more realistic subset as to who would be directly affected. In view of the resultant unrealistically small per person cost estimate that results when this total cost figure is divided by the number of full-time working women, not much emphasis should be placed on this figure.

Table 4.10 outlines the various total cost estimates that would be implied for Ontario if the per person cost estimates of the various sources were applied to the four hypothetical numbers of persons in Ontario who may be directly affected by the application of equal value. Clearly the differences are substantial, ranging from less than one tenth of a million dollars (more precisely $102,620) to a high of approximately $12.5 billion.

As discussed previously, since the per person cost estimates associated with Knight's Associates is unlikely to be accurate (since the total cost estimate was probably not meant to apply to the total full-time female workforce) then the application of this estimate to the Ontario scene is not likely to be realistic. The other figures

TABLE 4.10 -- ALTERNATIVE COST ESTIMATES[a] FOR ONTARIO IMPLIED BY NATIONAL COST ESTIMATES, 1983

(millions of dollars)

Alternative source (and per person cost estimates)[b]	Numbers affected in Ontario[c]			
	1,065,000	712,000	410,000	14,000
	(1)	(2)	(3)	(4)
Hay Associates ($11,722)	12,484	8,346	4,806	164
Fortune, Dun's, New York Times, National Law Journal ($5,495)	5,852	3,912	2,253	77
Knight's Associates ($7.33)	7.8	5.2	3.0	0.1

Notes: a. Each entry is the product of the alternative number that would be affected in Ontario as given by the 4 columns, and the alternative per person cost estimate as given by the rows.

b. Column (3) of Table 4.9.

c. Rounded figures from Table 2.4.

are "in the ballpark" relative to some of the estimates provided from other sources; nevertheless, even here the estimates are not the ones that should be given the most attention. They are based on reported total cost figures that do not give much if any explanation for their derivation; they probably refer to the cost associated with closing the overall male-female earnings gap and not just applying comparable worth; and the total cost figures were divided by the number of full-time female workers to get a per person cost estimate, and yet it is not clear that the total cost estimates were based on that number of workers.

FEDERAL AND QUEBEC EQUAL VALUE CASES

The federal and Quebec equal value cases were discussed in Chapter 2 in the context of estimating the numbers of persons who potentially could be affected by the application of the equal value principle. The magnitude of the settlements[4] in each of the cases can also shed some light on the possible wage adjustments that can be expected. As was the situation where estimates of the potential numbers who could be affected were examined, in the federal jurisdiction only the librarians and general service worker settlements will be examined for the wage adjustments; the other cases were ones that could have been handled under conventional equal pay legislation and/or they involved only a small number of persons or they involved discriminatory classification systems rather than equal value comparisons.

With respect to the 3,300 general service workers the 1982 settlement was $17.2 million to bring their salary to one of comparable worth, with an annual ongoing cost of $13 million. These imply, respectively, per person cost estimates of $5,212 and $3,939; the former reflects retroactive payments as well as the annual wage cost, the latter reflects the annual wage cost only. Updating these to reflect the 6.0 percent increase in base wages that occurred in 1983 (Labour Canada, 1983, Table C.1) implies updated per person cost estimates of $5,525 when backpay is included and $4,176 when only ongoing annual wage costs are considered.

With respect to the 475 librarians a total settlement in 1980 of $2,341,416 was involved which amounts to an average of $4,929 per person. This included backpay of up to $5,900 each with the annual increases ranging from $500 to $2,500. The annual ongoing cost, that is, the cost of paying the librarians the amount which is owed over and above what they would have received if no settlement had been made, is $1 million per year or $2,105 per worker. In fact, any new librarians who are hired receive a lump sum of approximately $2,300 to compensate them for the fact that the salary scale itself has not been changed. This implies two alternative annual per person cost estimates of $2,105 and $2,300. Since the first annual payment which included backpay averaged $4,929 this implies that the backpay itself was slightly larger than the annual settlement.

These settlements occurred in 1980. The effective base wage increase in Ontario in 1981, 1982 and 1983 respectively were 12.2, 10.0 and 6.0 percent (Labour Canada, 1983, Table C.1) which imply a compounded increase of 30.8 percent. Updating the librarian wage adjustments would therefore imply per person cost adjustments of $6,447 when backpay is included and $2,753 and $3,008 when only ongoing annual wage costs are considered.

The Quebec North Shore Paper settlement in the Quebec jurisdiction in 1978 involved a one year retroactive payment of $25,914 and annual increase of $16,830 for the 24 women. Presumably the one year retroactive payment does not include the annual adjustment since an alternative source (Ontario Ministry of Labour, 1980, summary of brief by Suzann Boivin) gives the total cost as $43,000 which is approximately the sum of the retroactive and annual increase, more precisely $42,744. This implies per person cost estimates of $1,781 to include the retroactive and annual adjustment, and $701 when only annual adjustment costs are considered. This is consistent with the federal cases where the backpay was slightly larger than the annual adjustment.

These cost estimates apply to 1978. The effective annual base wage increase in Ontario between 1979 and 1983 respectively were 7.1, 9.6, 12.3, 10.0 and 6.0 percent (Labour Canada, 1980, 1983) which imply a compounded increase of 53.7 percent. Applying this to the 1978 cost estimates yields 1983 estimates of $2,737 to include the retroactive and annual adjustment, and $1,077 when only the annual adjustment is used.

In 1979, 203 female employees in Val-Cartier industries were also awarded a lump-sum payment of $150 each. Updating this by the compounded rate of wage change between 1980 and 1983 of 43.5 percent (Labour Canada, 1980, 1983) implies a 1983 per person wage cost adjustment of $215.

Table 4.11 summarizes the alternative updated per person cost estimates from the federal and Quebec jurisdictions. With the exception of the Val-Cartier settlement in Quebec, the estimates are not all that disparate, especially since the larger magnitudes reflect backpay as well as the annual cost figures. The annual cost figures themselves are consistent with the previously discussed magnitudes based on U.S. cases, those annual cost figures ranging from $1,077 for Quebec North Shore Paper, $2,753 for librarians, and $4,175 for general service workers.

Table 4.12 gives the implied total cost figures for Ontario, obtained by multiplying the updated per person cost estimates by the four alternative estimates of the number of persons who are likely to be affected. The range is substantial, going from approximately $3 million to over $5.5 billion, reflecting both the variation in the number of persons likely to be affected and the different per person awards.

OTHER CASES

While the previously discussed cases are believed to be the main ones, at least for providing systematic information to apply to the Ontario situation, other cases do exist, albeit the information

TABLE 4.11 -- COST ESTIMATES FROM FEDERAL AND QUEBEC EQUAL VALUE AWARDS

Case	Total award	Number affected	Per person cost[a]	1983 Per person cost[b]
	(1)	(2)	(3)	(4)
General service, incl. backpay, 1982	$17,200,00	3300	$5,212	$5,525
General service, annual, 1982	13,000,000	3300	3,939	4,175
Librarians, incl. backpay, 1980	2,341,416	475	4,929	6,447
Librarians, annual, upper, 1980	n.a.	475	2,300	3,008
Librarians, annual, lower, 1980	1,000,000	475	2,105	2,753
Quebec North Shore, incl. backpay, 1978	42,744	24	1,781	2,737
Quebec North Shore, annual, 1978	16,830	24	701	1,077
Quebec, Val Cartier	n.a.	203	150	215

Source: Text.

Notes: a. Column (1) divided by column (2).

b. Column (2) adjusted upwards to reflect the compounded increase in wages as discussed in the text.

TABLE 4.12 -- ALTERNATIVE COST ESTIMATES[a] FOR ONTARIO IMPLIED BY FEDERAL AND QUEBEC CASES, 1983
(millions of dollars)

Case (and per person cost estimate)[b]	Numbers affected in Ontario[c]			
	1,065,000	712,000	410,000	14,000
	(1)	(2)	(3)	(4)
General service, incl. backpay ($5,525)	5,884	3,934	2,265	77
General service, annual ($4,175)	4,446	2,973	1,712	58
Librarians, incl. backpay ($6,447)	6,866	4,590	2,643	90
Librarians, annual, upper ($3,008)	3,204	2,142	1,233	42
Librarians, annual, lower ($2,753)	2,932	1,960	1,129	39
Quebec North Shore, incl. backpay ($2,737)	2,915	1,949	1,122	38
Quebec North Shore, annual ($1,077)	1,147	767	442	15
Quebec, Val Cartier ($215)	229	153	88	3

Notes: a. Each entry is the product of the alternative number that would be affected in Ontario as given by the 4 columns, and the alternative per person cost as given by the rows.

b. Column (4) of Table 4.11.

c. Rounded figures from Table 2.4.

provided is usually more limited. For example, the International Union of Electrical Workers received a partial settlement of a lawsuite in Fort Wayne, Indiana against General Electric for $1,000,000 in annual pay and backpay for 2,000 women, which implies a settlement cost of $500 per woman, including backpay (Newman, 1980, p.81). Because the magnitude referred to a partial settlement the exact magnitude of the ultimate settlement is not clear. Another source puts the amount as backpay of $350,000 and annual wage increases of more than $1,000,000 per year for 2,000 employees (Newman, 1982, p.155) which implies an annual cost of $500 per person and backpay of $175.

The National Action Committee on the Status of Women (Ontario Ministry of Labour, 1980), suggested that with serious implementation, perhaps 20 percent of the wage gap would disappear and that if women's wages were raised by 20 percent, this would cost less than 10 percent of the wage bill. They cite British estimates as amounting to 3.5 to 6.0 percent of the total wage bill.

Perlman and Ennis (1980, p.20) indicate that a 1972 decision of the Australian Federal Tribunal (effective in 1975) established and enforced a policy of equal pay for work of equal value. As a result, the average earnings of a full-time female worker increased by 30 percent relative to the earnings of a full-time male worker.

In Idaho, the state legislature hired Hay Associates to do a job evaluation study which resulted in adjustments of about $7 million for 8,700 employees which implies a per person adjustment of $805 in 1976 (Minnesota, 1982, p.7). That figure would be considerably higher (approximately twice the magnitude) in 1983 dollars. Many individual classes had salaries reduced but on net salaries were increased. Presumably the $805 figure in 1976 was the net per person cost associated with the upward and downward adjustments; if only upward adjustments were considered (on the grounds that downward ones would be prohibited by law) then the per person adjustment cost would be considerably higher.

Because these other cases do not usually yield enough information to provide reliable estimates of the wage cost adjustments, they are not converted into total cost estimates that would be implied for Ontario. They are illustrative of the magnitudes involved, however, and they are broadly consistent with the estimates provided in the previously discussed cases.

FOOTNOTES TO CHAPTER 4

1. Memo to Joe Taller, Director, Office of Financial Management, from Leonard Nord, Director, Department of Personnel, both for the State of Washington, January 14, 1983.

2. Memo to Leonard Nord, from Bob Boysen, both in the Department of Personnel, State of Washington, January 26, 1984.

3. Memo from the Commission on the Economic Status of Women, entitled Update-Pay Equity for State Employees, 10-7-83. The memo itself gives a figure of 4,000 employees involved which is approximately half of the number from other sources to be discussed subsequently. Based on a telephone conversation to Ms. Bonnie Watkins of the Commission, their original figure of 4,000 has been corrected to an updated figure of 8,225 employees involved.

4. Data provided by the Ontario Ministry of Labour.

5. POTENTIAL WAGE COST FROM EXISTING PAY GAP

The previous analysis discussed the potential wage cost increases based on the per person costs from other situations where comparable worth was applied and applying these to various hypothetical numbers of the Ontario workforce that may be directly affected. An alternative approach -- discussed in this section -- is to provide alternative estimates of the portion of the overall earnings gap between males and females that could be affected by the implementation of equal value legislation. These could then be translated into per person costs and the amounts again multiplied by various hypothetical numbers of the Ontario workforce that may be directly affected. Much of the discussion in this section on the magnitude of the gap that could be affected comes from Gunderson (1982), which in turn is a summary of a longer more comprehensive review and analysis by the author of data for Ontario, Canada and other countries.

With respect to the overall earnings gap between men and women various components of that gap are amenable to change through different policy initiatives. Conventional "equal-pay-for-substantially-similar-work", for example, can deal with wage discrimination within the same narrow occupation within the same establishment; it cannot deal with occupational segregation or the segregation of females into low-wage establishments or industries. Equal employment opportunity legislation, including its variant of affirmative action, can deal with occupational segregation within the same establishment; however, it does not deal directly with unequal pay (albeit, it may indirectly help achieve equal pay by increasing the demand for female labour).

In most circumstances such anti-discrimination legislation in the labour market can only deal with discrimination in the labour market. It cannot deal with discrimination that emanates from other sources such as educational or training institutions or the household. An unequal division of labour and responsibilities within the household, for example, may lead to differential absenteeism and turnover, as well as restrictions on the types of jobs women can take in the labour market; this in turn cannot be directly affected by legislative initiatives in the labour market. Labour market policies may have an indirect affect; for example, affirmative action by increasing the demand for female workers or equal pay legislation by raising the wages of females may make any unequal division of labour within the household more costly to the household and this may help dissipate discrimination within the household. Nevertheless, these effects are indirect; they do not operate directly on the labour market.

There is a general consensus in the literature that within the labour market, occupational segregation (both between occupations and the segregation of females into low wage jobs within an occupation) is a much more important source of the overall earnings gap than is wage discrimination within the same narrow occupation within the same establishment. In fact, it is likely that at most .05 to .10 of the overall wage gap can be attributed to wage discrimination within narrowly defined occupations within the same establishment -- the portion of the gap that conventional equal-pay-for-equal-work legislation can deal with.

It is in part for this reason that pressure has been exerted to adopt equal value legislation which, by not being confined to comparisons within equal or substantially similar jobs, can deal with wage inequities across dissimilar jobs, providing they have equal value as measured, for example, by a job evaluation procedure that evaluates inputs such as skill, effort, responsibility and working conditions. The question then becomes: what portion of the overall gap can be dealt with by this broader concept of equal value?

This question is much more difficult to answer than the question pertaining to the scope of conventional equal pay legislation since it is much more difficult to apportion the remainder of the gap to the occupational segregation that equal value legislation can deal with. One can say that it is larger than the .05 to .10 that conventional equal pay can deal with and that it is less than the .37 overall gap for the Ontario full-time, full-year workforce in 1981 (based on a ratio of female to male earnings of \$14,682 / \$23,305 = .63).[1] It is smaller than the latter because some portion of the overall gap can be attributed to discrimination emanating from sources outside of the labour market or to differences in productivity-related factors such as experience, time worked, education or training -- factors that may reflect discriminatory or nondiscriminatory "choices" outside of the labour market. In addition, some of that overall gap, even if it fully was due to discrimination, could not be dealt with by equal value legislation which is confined to comparisons within the same establishment (and hence within the same region and industry) and to comparisons where comparable worth can be established through such procedures as job evaluation.

Narrowing the scope of equal value legislation to a value within the range of .05 -.10 up to .37 can be assisted by the fact that a large number of studies where job evaluation procedures were conducted found that females typically earned .80 of what males earned for the same comparable worth as established by job evaluation point scores. This .80 figure, implying a .20 gap for comparable worth, is an approximation based on statements from a variety of sources. Newman (1982, p.156), for example, indicates that "Scores of pay equity studies initiated by AFSCME but conducted by personnel selected by the employer show that predominantly female jobs in State and local government bodies are consistently undervalued by 15% - 35%." The international president of AFSCME, Gerald McEntee (1982, p.207) indicated "The Wisconsin study, for example, evaluated blue-collar and clerical jobs separately, and made denigrating assumptions about the nature of clerical work. Even using this flawed system, the study concluded that predominantly female clerical jobs received roughly 20 percent lower salaries than predominantly male blue-collar jobs of equal points." Kurtz (1982, p.222) reports that "In the Gunther case, the county of Washington undertook a job evaluation study which determined that the female correctional officers' job was worth 95 percent of the compensation paid to the male correctional officers. However, the county only paid the women at the rate of 70 percent." This implies that females would be paid .74 of the pay of male jobs of comparable worth. Walmsley, Ohtsu and Verma (1980, p.11) based on the application of a job evaluation procedure to a Canadian organization estimated the magnitude of sex-based wage discrimination for jobs of comparable worth to be 26.6 percent of the average female wage.

The State of Washington study discussed in Chapter 3 also found that on average the pay in female dominated jobs was .80 of the pay for the same level of job evaluation point scores in predominantly male jobs. The San Jose study, discussed in Chapter 4, yielded a ratio of .75 to .90 for male and female jobs of comparable worth; an alternative source puts the average at .85 (Professional Secretaries International, 1982, p.1747). The Minnesota Council on the Economic Status of Women (1982, p.7) referred to a Connecticut pilot study conducted by Norman D. Willis Associates for state employees that "found a 20 percent differential between similarly-evaluated jobs held by women and those held by men."

Given the range of estimates, a ratio of female to male earnings of .80 in jobs of comparable worth seems a reasonable approximation. It also implies a .20 gap in jobs of comparable worth, which in turn seems a reasonable proportion given the previous discussion that it is likely to be larger than .05 - .10 but smaller than .37.

It is difficult to determine if that gap for the scope of equal value also encompasses the .05 to .10 of the gap that represents the scope for conventional equal pay legislation. Presumably it does since comparable worth by enabling comparisons across dissimilar jobs does not preclude comparisons across similar jobs, which is the pervue of conventional equal pay. In that sense, the additional scope for equal value legislation beyond conventional equal pay would be .20 minus .05 - .10 or .15 to .10 .

In contrast, if one views conventional equal pay legislation as ineffectual in closing even the .05 - .10 of the gap over which it has scope, or equal value legislation as also encompassing conventional equal pay since both can deal with comparisons within similar jobs then the .20 figure would be an appropriate measure of the scope of equal value legislation.

This discussion suggests three possible measures of the scope of equal value legislation: (1) the extreme upper bound of .37 based on the assumption that equal value legislation could close all of the earnings gap (this assumes that all of the gap emanates from wage discrimination or occupational segregation in the labour market) and that none emanates from differences in productivity-related factors that could give rise to differences in job evaluation scores pertaining to skill, effort, responsibility and working conditions); (2) the lower bound of .125 (i.e., .20 - .075) that represents the incremental effect of equal value (.20) over conventional equal pay (.05 - .10) with the midpoint of .075 being used as the measure of the scope of conventional equal pay, and (3) the estimate of .20 based on the comparable worth studies that tend to find this wage inequity in jobs of comparable worth, and based on the fact that this seems a reasonable figure within the range of the lower bound of .125 and the upper bound of .37 .

These percentage figures on the scope of equal value legislation can be translated into dollar amounts to arrive at per person cost estimates that can be compared to those based on the U.S. comparable worth studies, court awards and implementation plans. For example, the gap of .20 is based on the job evaluation studies that find female pay to be about .80 of male pay in jobs of comparable worth as measured by job evaluation scores. That is, $w_f/w_m = .80$ for jobs of comparable worth and hence the gap is $1 - .80 = .20$ (i.e., $\text{gap} = 1 - w_f/w_m = (w_m - w_f)/w_m$). (This highlights the fact that the .20 gap is 20 percent of male earnings, not 20 percent of the overall gap). Based on 1981 annual full-time, full-year male earnings in Ontario[1] of $23,305 this implies that the scope for equal value legislation would be $4,661 (i.e., .20 x $23,305). Alternatively stated, the unadjusted ratio of female to male full-time, full-year earnings in Ontario in 1981 was $14,682 / $23,305 = .63 . The comparable worth evaluations indicated that the adjusted ratio for jobs of comparable worth was approximately .80 . That is, .17 of the male earnings would be attributed to differences in productivity-related factors (an undetermined amount of which could reflect discrimination in the acquisition of those factors) and the remaining .20 would be attributed to pay inequities for the same productivity-related factors of skill, effort, responsibility and working conditions used to arrive at a measure of comparable worth. That is, if females would have had the same endowments of productivity-related factors as males their pay would have been increased by \$3,962 (i.e., .17 x \$23,305) from \$14,682 to \$18,644. This still leaves them at .80 of male pay (i.e., \$18,644 / \$23,305) for the same productivity-related factors as evaluated by a comparable worth job evaluation. This gap of \$4,661 (i.e., \$23,305 - \$18,644 or .20 x \$23,305) is the amount that could be dealt with under the scope of equal value legislation.

Comparable calculations based on closing the overall gap of .37 of male pay or the gap of .125 of male pay (the latter reflecting the incremental scope of equal value over conventional equal pay legislation) would imply per person amounts respectively of \$8,623 (i.e., .37 x \$23,305) and \$2,913 (i.e., .125 x \$23,305).

These calculations are based on the assumption of closing the overall pay gap that reflects unequal pay for comparable worth, that is, raising female wages from .80 of average male pay to be equal to average male pay. As indicated in the discussion of the comparable worth studies, the male-female wage gap in jobs of comparable worth reflected a combination of female jobs being "undervalued" and male jobs "overvalued" relative to a comparable worth line. Closing the gap would imply raising undervalued female jobs to the pay of overvalued male jobs. Raising the pay of undervalued female jobs to the comparable worth line and leaving overvalued male jobs at the same pay (perhaps on the grounds that other wages cannot be lowered as a result of the legislative initiative) would cost approximately one-half as much per person, at least in that round of pay adjustments. In subsequent rounds, with a new equal pay line again in between the newly valued female jobs and the still overvalued male jobs, new upward adjustments would again occur and this process would continue until the gap disappeared. Nevertheless, the first-round cost increases would be one-half of the ultimate cost increases, the latter of which would be equal to the cost of closing the overall gap.

Table 5.1 summarizes the three different per person cost estimates as discussed in the text and gives these figures for both the total cost of closing the gap by raising female pay ultimately to male pay, as well as the cost associated with a single round of raising female wages to what would be a comparable worth line. The figures are given for both the 1981 earnings figures as discussed in the text as well as a 1983 update, obtained by multiplying the 1981 figures by 1.166 to reflect a 16.5 percent increase in compensation that went on over that period.[2]

Table 5.2 gives the total cost estimates for Ontario implied by the 1983 alternative per person cost estimates as given in Table 5.1, and the four alternative estimates of the likely number of persons who may be directly affected. The column 3 figures are utilized from Table 5.1 because they reflect the cost of closing the gap; costs of raising the pay of females to a comparable worth standard rather than to an overvalued male standard are approximately one-half (as would be the case if column 4 figures are used).

TABLE 5.1 -- PER PERSON COST ESTIMATES BASED ON ALTERNATIVE CONCEPTS AND SCOPE OF COMPARABLE WORTH, ONTARIO, 1981, 1983

Concept of comparable worth and its scope	1981		1983[c]	
	Close gap[a]	Raise to comparable worth[b]	Close gap[a]	Raise to comparable worth[b]
	(1)	(2)	(3)	(4)
1. Close overall gap of .37	$ 8,623	$ 4,312	$10,054	$ 5,028
2. Close comparable worth gap of .20	4,661	2,331	5,435	2,718
3. Close comparable worth gap net of conventional equal pay gap, i.e. .20 - .075 = .125	2,913	1,457	3,397	1,699

Source: Text.

Notes:

[a] Average annual full-time, full-year male earnings of $23,305 times the relevant percent of the gap that applies to comparable worth as given in the three rows.

[b] One-half the estimate of column (1) based on the fact that raising the wages of undervalued female jobs to comparable worth is about half of the cost of closing the gap by raising them to overvalued male jobs.

[c] 1981 figures times 1.166 to reflect the 16.6 percent average increase in compensation between 1981 and 1983 as discussed in the text.

TABLE 5.2 -- ALTERNATIVE COST ESTIMATES[a] FOR ONTARIO IMPLIED BY CLOSING GAP IN ONTARIO, 1983

(millions of dollars)

Alternative concept of comparable worth and its scope (and per person cost estimate)[b]	Numbers affected in Ontario[c]			
	1,065,000	712,000	410,000	14,000
	(1)	(2)	(3)	(4)
1. Close gap of .37 ($10,054)	10,708	7,158	4,122	141
2. Close comparable worth gap of .20 ($5,435)	5,788	3,870	2,228	76
3. Close comparable worth gap net of conventional equal pay gap, i.e. .20 - .075 = .125 ($3,397)	3,618	2,419	1,393	48

Notes: a. Each entry is the product of the alternative number that would be affected in Ontario as given by the 4 columns, and the alternative per person cost estimate as given by the rows.

b. Column (3) of Table 5.1.

c. Rounded figures from Table 2.4.

Again the range is substantial going from $48 million to almost $11 billion reflecting mainly the alternative assumptions with respect to the number of employees involved, but also the different per person cost estimates. Utilizing the row 2 figures on the grounds that they represent the cost of closing the comparable worth gap of .20 and the figures of columns 2 to 4 on the grounds that they represent the more reasonable range of numbers likely to be affected, narrows the range somewhat. Nevertheless, a range of $76 million to almost $4 billion is still a substantial range.

FOOTNOTES TO CHAPTER 5

1. Earnings of Men and Women, 1981 and 1982, Statistics Canada, Catalogue 13-577 (forthcoming Fall 1984).

2. Base wage increased in collective agreements covering 500 or more employees were 10 percent and 6 percent, respectively, in 1982 and 1983 in Ontario (Labour Canada, 1983, Table C-1). This implies a compounded increase of 1.10 x 1.06 = 1.166 over the two year period between 1981 and 1983.

6. OFFSETTING AND OTHER ADJUSTMENT FACTORS

The previously discussed cost estimates were based on the direct costs associated with the wage increases of those persons who most likely would have their wages increased by the application of equal value. Other indirect effects will also be at work -- some offsetting part of the cost increases, other exacerbating them. The purpose of this section is to discuss those possible adjustment processes and to indicate the likelihood with which they would occur.

CHANGES IN MALE WAGES

The most likely set of adjustments would occur with respect to male wages, or more generally the wages of those jobs that were "overvalued" in a job evaluation procedure. As the evidence from both the Norman D. Willis Associates study for the State of Washington and the Hays Associates study for Minnesota indicated, these would likely be predominantly male jobs that were above the comparable worth line. Obviously if there is some logic to bringing the pay of "undervalued" predominantly female jobs up to the comparable worth line, there is some logic to bringing the pay of "overvalued" predominantly male jobs down to the comparable worth line.

Legislative provisions in all likelihood would prohibit the downward adjustments of any other persons' pay as a result of the application of equal value. While this may be enforceable with respect to nominal wage reductions in a given year, it is difficult if not impossible to enforce with respect to the rate of change of nominal wages as well as the level of real wage changes. In other words, it is difficult to prevent employers from granting smaller nominal wage increases to other groups and/or from allowing their nominal wage increases to fall below inflation in which case real wage reductions may occur. These changes are unlikely to occur in the short run, especially as an immediate response to the equal value initiative. Nevertheless, in the long run the adjustment processes can be subtle and inexorable.

With limited budgets, cost increases for some segments of the workforce are going to exert pressure for cost reductions elsewhere, including pressure for wage restraint for other components of the workforce. Even with respect to unionized workforces, there may be internal trade-offs. For example, in the State of Washington case "AFSCME gave up a paid lunch period to win pay equity" (Business Week, July 18, 1983, p.170). In other circumstances the trade-offs may be more subtle; nevertheless, there will be some pressure for such cost saving elsewhere to occur.

The basic economic forces of supply and demand will operate in a fairly complex fashion to have an indirect feedback effect on the wages of other workers, especially males. On the supply side, according to competitive economic theory, the increased wage costs in the predominantly female jobs will lead to reduced employment opportunities in those sectors. As Robb (1983) points out, this can occur whether the regulatory agency correctly or incorrectly diagnoses the situation as involving discrimination. Again the adjustments will be subtle and in the long run, involving reduced growth rather than absolute reductions. The excess supply of labour from these now more expensive predominantly female jobs will exert a downward pressure on the wages in the other jobs for which these excess supplies are now competing. Obviously this will be more prominent for the lower wage other jobs since the excess supplies may not be a competitive threat for many of the higher wage jobs for which the excess supplies cannot compete.

On the demand side two opposing forces would be at work in competitive markets. On the one hand, the higher pay in predominantly female jobs means that employers will try to substitute away from this now relatively more expensive pool of labour, perhaps in subtle ways, for example, by contracting-out (Nelson, Opton and Wilson, 1980-81, p.397), and this will increase the demand for other workers and hence raise their wages. On the other hand, to the extent that they are complements rather than substitutes, this will lead to a reduced demand for the services of complementary workers (accompanying the reduced demand for the services of the now more expensive workers who receive an equal value adjustment) and this in turn will lead to a reduction in their wages. This may occur, for example, if some firms are put out of business because of the higher costs associated with a legislative wage cost increase.

Since the supply spillover effect serves to reduce the wages of other workers and the demand effects work in opposite directions depending upon whether the workers are net substitutes or complements, it is not possible to determine a priori whether the wages of other workers, predominantly males, will rise or fall as a result of the application of equal value to the predominantly female workforce. These indirect effects presume that competitive pressures through supply and demand will be operative, an assumption that many question in this area where segmentation and noncompetitive factors are often believed to be important. (The competitive and segmented labour market perspectives, and their implication for discrimination are discussed in Jain and Sloane, 1981). Whether the labour market in this realm is best characterized as competitive or segmented, it is likely that the indirect impact from the supply and demand factors will exert some influence on the wages of other workers, albeit the net direction is indeterminate.

EFFECT ON WAGE HIERARCHY

Somewhat independent of the market forces, there may be pressure to reestablish the former wage hierarchy that existed prior to the exogenous legislative intervention. That is, there may be pressure to restore some of the former wage relativities (Ontario Ministry of Labour, 1976, p.58). Obviously this is not completely possible since it would simply set off another round of comparable worth adjustments to close or at least reduce the gap. Nevertheless, there may be some pressure in that direction and there may be some relativities that could be restored without violating equal value principles. For example, there may be pressure to restore some of the traditional wage difference between females in mixed occupations and those in predominantly female jobs that may be the recipients of equal value wage increases.

The existence of a ripple effect has been documented, for example, in the lawsuit against the International Union of Electrical Workers and General Electric in Fort Wayne, Indiana. As reported by Wilson (1980, p.89) the original settlement was for $.35 per hour for 350 women and about $350,000 in backpay. After the award "by getting certain women a wage increase, a wage inequity had been created with other women... they knew they were worth two grades more than Jane who had moved up from a grade 9 to their grade 11. That's when they started to complain. As a result we went back, looked over the whole thing, and found that there was more sex discrimination than had been reported. It resulted in another $700,000 in backpay annually for another 1,650 women." Milkovich (1980, p.154) also raises the possibility that using the wage mechanism to reduce shortages may be thwarted by the fact that this may upset a comparable worth balance which in turn may require the raising of other wages to restore the comparable worth balance. This could occur even if the related jobs did not require a wage increase to reduce any shortage.

It is difficult to ascertain the general importance of such pressures. Economists would tend to downplay them unless they reflect indirect effects of supply spillovers or demand changes as previously discussed, and these were seen to imply an indeterminate change in the wages of other groups not directly affected by equal value legislation. Wage structures do change and they can be responsive to exogenous changes including legislative initiatives. Clearly a new equilibrium wage structure will re-emerge and it will reflect the direct effect of the exogenous policy initiative as well as indirect effects through supply and demand changes.

POSSIBLE OFFSETTING COST FACTORS

To the extent that the previous wage structure reflected basic forces of supply and demand these same basic forces will be at work in a subtle fashion to restore at least some of the old relativities. For example, employers may have been able to continue to pay predominantly female jobs a wage less than their "worth" according to a job evaluation procedure because of a readily available pool of labour segmented or crowded into such jobs. With increased wages in these jobs the excess supply of labour trying to get the higher wage job will be even greater and in fact these jobs will become more attractive to competition from male workers.

Clearly the forces of supply could not lead to an overt lowering of wages in these jobs since that would be in direct violation of the legislation (albeit such pressures may lead to subsequently lower wage increases in these jobs with further needs for comparable worth assessments). Other more subtle pressures, however, may be at work. The excess supplies for the higher wage jobs means that employers may be able to raise their qualifications and hiring standards and they may be able to allow working conditions to deteriorate, for example, by requiring more work effort and speeding up the pace of work. It may be easy to legislate the price per worker but it is difficult to enforce the higher price per unit of labour quality and market forces can work on the quality as well as quantity dimension. Such adjustments will be limited, however, by the fact that they would lead to higher job evaluation scores in such areas as skill, effort, responsibility and working conditions, and this in turn would justify further wage increases commensurate with the higher "value" of the job.

In some circumstances these adjustments may be welcomed by advocates of equal value. For example, faced with paying a higher wage, employers may upgrade or train females and assign them more responsibility -- changes that may be regarded as positive moves in the direction of more equality. In addition the higher wages may increase motivation and reduce the alienation of groups that otherwise felt they were unfairly treated. At the Ontario Ministry of Labour (1978) conference on equal pay, for example, Harish Jain emphasized that "the added costs of equal pay are balanced by benefits to the employer through more efficient use of human resources and the higher morale generated by fair treatment" (reported in Fisher, 1978, p.259). The increased cost pressures on employers may also induce or "shock" them into making efficiency changes they should have made in the first place, but did not simply because of insufficient cost pressure.

While some of these effects may be at work to offset in part at least some of the cost increases associated with equal value wage increases it is unlikely that they will be substantial. If such actions were "profitable" in the first place it is likely that they would have been followed by profit maximizing, cost conscious employers. Certainly employers, especially in the private sector, will be "shocked" into new cost saving practices but it is likely that these will represent responses to the new legislative constraints not the exhaustion of profit margins that should have been exploited prior to the legislation.

ANALOGIES TO UNION IMPACT AND MINIMUM WAGE LITERATURE

These indirect effects and offsetting adjustment factors are analogous to many of those discussed in the union impact and minimum wage literature. In addition to having a direct impact on the wages of union workers, unions can have an impact on the wages of non-union workers as the excess supplies of workers who cannot get jobs in the high wage union sector depress wages in the non-union sector and as the demand for non-union labour is affected in an indeterminate fashion depending upon whether it is a substitute or complement. In addition, non-union employers may pay union wages or even more in order to reduce the threat of becoming unionized (analogous to paying comparable wages to avoid the threat of an equal value litigation).

When subject to union wage increases employers may be able to raise their hiring and quality standards given the larger queue of applicants for the higher wage union positions. The pace of work and requirements of the job may also increase to match the new higher wages. Such effects could be at work for any exogenous wage increase, including minimum wage increases.

"Shock effects" have also been discussed especially as possible adjustments that may offset in part at least some of the cost increases associated with legislated minimum wage increases. These may occur on the part of employers who are induced into more efficient practices because of the greater cost pressure, or on the part of workers whose productivity may be related to wage increases.

In general, however, it is unlikely that these adjustment factors will offset much of the cost increase associated with exogenous wage increases whether they emanate from unions, minimum wage increases or equal value wage increases. Obviously, many of the adjustments will be resisted by the groups receiving the wage increases; for example, unions will resist offsetting changes in working conditions and equal employment legislation will discourage the hiring only of males into the higher wage female positions. In addition, it is simply unlikely that employers consistently failed to make efficient decisions until shocked by cost increases emanating from legislative changes. More than likely their responses will reflect rational responses to the new cost constraint rather than the exhaustion of otherwise unexhausted profit margins.

7. RELATED FACTORS AFFECTING COSTS

The previous cost estimates usually referred to the annual cost of moving towards or attaining equal pay for work of equal value in the Ontario workforce. In order to keep that wage gap closed these costs obviously would be incurred indefinitely into the future.

As in the case with most policy initiatives the actual magnitude of the cost and its effect on the economy also will depend upon a number of factors that in turn are subject to policy control. These include a phasing-in period, the stage of the business cycle when the policy is introduced, the coverage of the legislation in various sectors, its retroactivity and actual enforcement procedures. Each of these elements of administrative, design and implementation features of the legislation can have important effects on its practical applicability, its effectiveness and its ultimate cost. Each of these factors will be discussed in turn.

PHASING-IN PERIOD

Decisions on the phasing-in of legislative initiatives have to deal with the trade-off between the justice of removing an inequity (which would dictate immediate adoption) and the practical issues of getting a policy approved and adjusting to its impact, including its cost consequences (which would usually favour phasing-in). This trade-off is involved in numerous policy issues including pollution and environmental controls, occupational health and safety, and banning mandatory retirement (usually by raising the age at which retirement can be required).

Proponents of the policies usually argue that if they are socially justifiable policies then there is no reason for stalling in their implementation. In fact, such stalling simply enables the parties to find ways of circumventing the policies and if the political climate changes the policies may be disbanded completely.

Those who favour a phasing-in of the policies tend to argue that such a procedure allows the parties to adapt, minimizing disruptive effects that may otherwise actually harm those who the initiatives were intended to assist. In addition, phasing-in has been advocated as a pure litigation strategy. Citing former EEO chair, Eleanor Holmes Norton, Wisniewski (1982, p.244) indicates "if someone jumps the gun and tries to give the court a complicated case, they will risk that the court will throw its hands up and say we can't deal with this -- as far as we're concerned that's the end of it." In the same vein, a phased approach also provides the opportunity to correct any mistakes in the design of the policy that could not have been forseen at the time of it being established. This reduces the likelihood of successions of "on again -- off again" policy changes, that are generally viewed as being disruptive and costly. For these various reasons political opposition is also likely to be lessened for policies that are phased in.

This latter issue of political opposition being able to stave off efficient or otherwise desirable policy changes has received considerable attention in recent years with respect to such issues as free trade and industrial relocation. In an economy with decentralized interest groups and political power, particular groups that are adversely affected by otherwise desirable policy changes can often garner the political support to block the changes. In that vein, compensating the losers especially in a manner that facilitates the positive adjustment that is desired may reduce the opposition and hence facilitate the desired change. Ignoring such distributive issues of compensation in the past may have prevented the attainment of otherwise efficient or desirable policy changes, highlighting the fact that equity or distributive issues also can have efficiency implications when one adds realistic political constraints to the usual market constraints.

Obviously there would not be a political consensus or possibly even a coalition that would argue (at least openly) that if groups such as employers or males lose through a policy of equal value that removed discriminatory wage differentials then they should be compensated for their losses. (This is in contrast to compensation for the effects of such policies as free trade or plant closings where the support would be greater.) Nevertheless, the political opposition would certainly be lessened by the phasing-in of equal value policy initiatives. Such phasing-in has been the practice in many of the previously discussed cases in the United States where the principles of equal value have been applied.

As discussed previously in Chapter 3 the mechanics of the comparable worth procedure that is often used in the job evaluation studies can provide a built-in automatic procedure for phasing-in equal value. That is, the comparable worth "payline" relating job evaluation scores to actual pay is an average of both the "undervalued" female jobs (which tend to be paid a wage less than one would expect based on their job evaluation score) and the "overvalued" male jobs (which tend to be paid a wage greater than one would expect based on their job evaluation score). Raising the wages of the undervalued female jobs to the comparable worth line would result in their being paid a wage commensurate with the point score estimate of their value. (This was the procedure followed, for example, in the State of Washington study.) This first step would ensure that females were paid a wage commensurate with an estimate of their value; however, it would still leave an unequal pay gap as long as the wages of "overvalued" male jobs were not reduced to a level commensurate with the estimate of their value.

In the next round, however, a new comparable worth line would have to be estimated which again would be an average of the old overvalued male jobs and the new undervalued female jobs -- undervalued by the new comparable worth line standard even though they were correctly valued when raised to the old standard. This process would be akin to a phasing-in of the policy because it would be continuously closing approximately one-half of the gap at each stage. However, it would also have a built-in upward bias to the extent that the newly estimated comparable worth line would consistently reflect the "overvalued" male jobs. Alternative phasing-in procedures would simply involve raising the wages of "undervalued" female jobs in stages, perhaps providing time for "overvalued" male wages to adjust downwards through smaller wage increases over time.

STAGE OF BUSINESS CYCLE

The labour market adaptation to new policy initiatives is likely to be facilitated not only by the phasing-in of policy initiatives but also by their timing. In particular the adaptation is likely to be facilitated in expanding sectors and in an expansionary phase of the business cycle.

This is so because any adverse employment effects that may be associated with the cost increases are likely to be mitigated by the expansion in employment opportunities associated with the expansion of the economy. Certainly the expansion in employment opportunities is not likely to be as great with the cost increases as it would have been without them; nevertheless, the adaptation is likely to be easier than if absolute employment reductions were involved. A reduction in the rates of new hiring for example, is likely to be easier to adapt to than an absolute employment reduction. An expansionary phase of the business cycle could also sustain firms that may otherwise have gone out of business because of the cost increases.

Even the relative adjustment in wages are more likely to occur in an expanding economy where all wages are increasing, albeit perhaps at different rates. It is easier to make relative adjustments through differential rates of change around an upward spiral than through absolute wage cuts -- the latter of which would likely be prevented by the legislation in any case. This in turn can make the policies politically more acceptable. In essence, both the real and perceived adjustment costs are likely to be mitigated in an expanding economy and this in turn makes the policies politically more acceptable.

COVERAGE IN VARIOUS SECTORS

Policies can be phased-in not only by the extent to which they eliminate the problem (in this case the pay gap for work of equal value) and the extent to which they are applied at various phases of the business cycle, but also by the extent to which they apply to all or only some sectors of the economy. An equal value legislative initiative, for example, could apply to various subsectors of the economy ranging from the narrowly-defined public sector of civil servants in government departments to the broader public sector of health and education, to Crown corporations, to the private sector that deals with the public sector through contracts and procurement policies, and to the pure private sector itself.

The pros of starting the policy off only in government departments is that such action may serve as a model for emulation by the private sector. Mistakes in the application can be rectified and enforcement problems are minimized since managers can be judged by the extent to which they achieve the stated objectives of the policy (in contrast with the private sector where there may be an incentive to circumvent the policy). Since the wage gap is smaller in the public than private sector the cost and adjustment consequences are also minimized. In addition, the absence of a profit constraint implies that the adjustment consequences can be absorbed without, for example, substituting away from the higher priced labour or running the risk of going out of business because of the higher costs.

These very factors, however, also imply that the experience in the public sector may not be representative of what can be expected if the policy is also extended to the private sector. The adjustment consequences are likely to be greater given the larger wage gap in the private sector, the need to be competitive on a cost basis, and the incentive to substitute away from the higher priced labour. The adjustment consequences are likely to be especially severe if the firm's very survival is jeopardized by the cost consequences of the policy initiatives. These very factors in turn can make enforcement problems more difficult.

To a certain extent some private sector firms may welcome or at least accept a policy initiative that is uniformly applied to the whole private sector. This prevents some firms from obtaining a competitive cost advantage by paying unequal pay for work of equal value. Firms that did not discriminate in this fashion may well favour the uniform application of a policy that they are already following to prevent any competitive cost advantage on the part of firms that discriminate in this fashion. In that vein firms that voluntarily comply may jeopardize their survival against firms that do not voluntarily comply and the only way to prevent such "competition on the basis of discrimination" would be to apply a uniform policy so that in fact those firms that discriminate the most in fact would be affected the most. It is not impossible, for example, to imagine an employer approving of the principle of equal pay for work of equal value but not following the principle unless all competitors also follow it, either voluntarily or through legislation.

While a uniform application of the policy throughout the industry may not jeopardize the survival or competitive position of those firms that otherwise would have followed the policy on a voluntary basis, the overall cost consequences likely will mean some contraction in the output of the industry, through a combination of some firms going out of business and others reducing their scale of output. In addition, while a uniform application of the policy throughout the industry may not jeopardize the competitive cost positions of the various firms in the industry relative to each other (except insofar as those that discriminate the most will be affected the most), the competitive cost position of the industry may be jeopardized relative to the same industry in other countries or jurisdictions, especially if comparable policies are not followed. Applying the policy uniformly within a jurisdiction can internalize the consequences within that jurisdiction, but not between jurisdictions.

Given the questionable relevance of policy initiatives in government departments if they are extended to the private sector, Crown corporations can provide a forum for testing this relevance. This is so because Crown corporations by their very nature bridge the spectrum between government departments and the pure private sector with "departmental" Crown corporations being most like government departments, "proprietary" Crown corporations being most like private sector enterprises, and "agency" Crown corporations being in between these two cases. Thus Crown corporations may bridge the gap between pure public and pure private organizations and the spectrum of different types of Crown corporations further expands the bridging possibilities. The fact that Crown corporations, in varying degrees, serve political as well as economic functions also suggests that they may be legitimate laboratories for policy experimentation; however, their performance must thereby be judged against such political as well as economic objectives.

In summary, the adjustment costs and consequences of policy initiatives like equal value legislation will depend in part on the scope of the initiative across various sectors of the economy. The consequences are obviously more limited if the policy is phased-in through its application first to government departments, then to the broader public sector, then to Crown corporations, then to the private sector in its dealings with the public sector, and finally to the private sector itself.

Such a procedure, however, may be criticized on the grounds that it essentially protects the private sector by delaying (and possibly even preventing) the application of the equal value principle to that sector. As with all forms of phasing-in, trade-offs may be involved between expedience and fairness, assuming of course that the policy itself is socially justifiable.

A final caveat with respect to the application of equal value legislation to the private sector. In North America at least the principle is basically a public sector phenomenon. The previously discussed cases in the United States were mainly in the public sector (e.g., Washington State employees, Minnesota State employees, San Jose municipal workers). The federal jurisdiction in Canada is predominantly public or quasi-public sector, especially with respect to the cases that have been dealt with so far. The application of equal value in Quebec has been extremely limited especially with respect to situations that could not have been dealt with through conventional equal pay legislation. For these reasons we know very little about the potential applicability of the equal value principle to the private sector.

RETROACTIVITY

The cost and adjustment consequences of policy initiatives like equal value legislation can also be affected by the retroactivity of the legislation. As previously discussed retroactive payments in equal value adjustments, when instituted, tended to be slightly larger than the annual ongoing wage costs.

Obviously judicial awards involving retroactivity can help rectify past injustices and provide more of a penalty deterrent against violating the principle; however, they also obviously exacerbate the adjustment consequences. As with the various dimensions of phasing-in of the policy initiative, a trade-off may be involved between expedience and justice, assuming again of course that the policy initiative is socially appropriate in the first place.

ACTUAL ENFORCEMENT PROCEDURES

The cost and adjustment consequences of a policy like equal value legislation obviously can depend upon the extent to which the policy is actually enforced. This in turn depends in part at least on the extent to which resources are devoted to the enforcement procedures. It is possible, for example, to have legislation "in the books" but in fact rarely if ever applied. This is a distinct possibility with equal value legislation to the extent that its application would require the use of job evaluation procedures. Such procedures are not always in place and in fact their usage may be discouraged if only those firms with job evaluation are likely to be subject to an equal value award, running the risk that they be "hoisted with their own petard." The equal value cases in the United States, for example, all emanated from situations that started with the voluntary use of a job evaluation procedure.

Mention has already been made of the fact that both the federal and Quebec jurisdictions have been extremely cautious in the actual enforcement of their equal value legislation, especially with respect to cases that could not have been dealt with by conventional equal pay legislation. As discussed in Chapter 2, however, in Ontario, there are a number of reasons to suggest that the legislation once instituted would be more actively enforced: geographic concentration makes enforcement easier; regular inspections could be involved as part of the Employment Standards Act; interest groups tend to be active and informed; there is a cumulation of experience to follow; legislation that is approved tends to be accompanied by resources for enforcement; a larger portion of employees are in the private sector where the wage gap is likely to be larger than the public sector. For these various reasons the actual enforcement procedures are likely to be fairly substantial in Ontario, at least relative to the Federal and Quebec experience with equal value.

SUMMARY OF RELATED FACTORS AFFECTING COSTS

Clearly the cost and adjustment consequences of equal value legislation can be affected by a number of administrative design features that can affect how the legislation is applied. The adjustment consequences can be reduced by phasing the legislation in over a longer time period and in the expansionary phase of a business cycle as well as by phasing it in to various sectors ranging from government departments, the broader public sector, Crown corporations, private firms dealing with the public sector, and ultimately to the private sector. In addition, the consequences can be reduced by not having the awards retroactive and by slowly increasing the resources devoted to the actual enforcement of the policies.

All of these actions, however, run the obvious risk of limiting the effectiveness of the legislation by restricting its scope and application in various dimensions. Clearly there can be a trade-off between justice or equity (assuming that the policy is appropriate in the first place) and expedience (assuming that its adoption may be jeopardized by its costs and adjustment consequences). If a policy decision is made to go ahead with the legislative initiative but to do so in an incremental fashion so as to reduce the cost and adjustment consequences, the difficult policy issue then becomes one of deciding upon the appropriate balance of the different design features with respect to such elements as phasing in, coverage in particular sectors, retroactivity, and enforcement procedures.

8. SUMMARY AND DISCUSSION

SUMMARY

The direct cost associated with the implementation of equal pay for work of equal value are those that result from the wage increases that will go to the recipient groups. These wage increases then have to be multiplied by the number of persons who are likely to receive them to arrive at a total cost estimate for Ontario.

Throughout the study four alternative estimates of the number of persons likely to be directly affected in Ontario are utilized. These figures are: (1) 1,065,024 based on the ratio of 34.4 percent of the approximately 3,096,000 full-time paid workers in Ontario covered by the Employment Standards Act; the 34.4 percent figure being the proportion of the workforce being affected by the State of Washington award; (2) 712,080 full-time, paid workers, based on the 23 percent of the relevant Ontario workforce affected by being in predominantly female (i.e., 70 percent or more female) occupations and covered by the Employment Standards Act; (3) a 409,600 estimate based on Sheila Copps estimate of 10 percent of the jobs in Ontario, and (4) a 14,487 estimate based on the assumption that the same proportion of the Ontario workforce would be affected as the proportion in the federal jurisdiction over the 1980-1982 period. Clearly the range of numbers is substantial, representing various proportions of the approximately 2 million female labour force and 4.6 million total labour force of Ontario in 1983.

An even larger array of per person cost increases (i.e., the likely wage increases for recipients) were obtained from a variety of sources. A complicated set of calculations yielded estimates from three different phases in the State of Washington case: their comparable worth study, the subsequent court award and the subsequent implementation plan. In addition, estimates were obtained from actual settlements and implementation plans for San Jose municipal workers and for Minnesota State employees. National estimates for the United States were also provided as were estimates based on closing .20 of the earnings gap in Ontario between males and females, a proportion that can be attributed to unequal pay for comparable worth as measured by a job evaluation score. Finally, estimates were obtained from the Canadian equal value cases in the federal and Quebec jurisdictions.

In most of these cases per person cost estimates were obtained by dividing total cost estimates by the likely number of persons involved and updating these to 1983. Even within each case, however, considerable variation was involved since total cost estimates varied considerably by source as did the number of persons involved; in fact, the latter figure was not always given and often had to be estimated. In addition, the relevant time period was not always given in each case, nor was information on whether the adjustment was partial or complete.

Because of this considerable variation in the "facts" of each case, alternative estimates for each case were provided corresponding to different possible numbers that were given from the different sources.

In most circumstances the extreme numbers could be dismissed and the more reasonable range of numbers was discussed in the text.

Table 8.1 provides a summary of what could be considered the "best" estimates from the various cases analysed in more detail in the text. (In total 45 per person cost estimates were calculated in the text, of which the 10 in Table 8.1 represent the most reasonable and likely estimates.) The per person cost estimates as indicated in each of the 10 rows range from $1,077 to $7,355, the former being based on the actual settlement that occurred in Quebec North Shore Paper and the latter being based on the State of Washington court award that is still being contested. The estimate of $5,435 in row 3 is based on the assumption of closing the male-female earnings gap in Ontario by .20, a proportion that has been attributed to unequal pay for comparable worth as estimated through job evaluation procedures applied in other environments.

The column headings give the 4 alternative estimates for the number of persons in Ontario who are likely to be directly affected by receiving the wage increases (per person cost estimates) associated with the move to equal value. The entries in the table (i.e., total cost estimates for Ontario) are the product of the per person cost estimates times the number of persons likely to receive the associated wage increases.

Clearly the variation in total cost estimates is substantial ranging from a low of $15 million based on the assumption that 14,000 workers in Ontario would receive a comparable worth wage increase equal

TABLE 8.1 -- SUMMARY OF ALTERNATE COST ESTIMATES[a] FOR ONTARIO, BASED ON "BEST" ESTIMATES FROM PREVIOUS TABLES, 1983
(millions of dollars)

"Best"[b] estimate from alternative source, table indicated (and per person cost estimate)	Numbers affected in Ontario[c]			
	1,065,000	712,000	410,000	14,000
	(1)	(2)	(3)	(4)
1. Washington state award, National Law Journal, Table 4.2 ($7,355)	7,833	5,237	3,016	103
2. U.S. national estimates, Table 4.10 ($5,495)	5,852	3,912	2,253	77
3. Closing gap of .20, Table 5.2 ($5,435)	5,788	3,870	2,228	76
4. Washington state study, Table 3.3 ($3,977)	4,236	2,832	1,631	56
5. Federal general service, Table 4.12 ($4,175)	4,446	2,973	1,712	58
6. Washington state implementation plan, Table 4.4 ($2,844)	3,029	2,025	1,166	40
7. Federal librarians, Table 4.12 (2,753)	2,932	1,960	1,129	39
8. Minnesota state, Table 4.8 ($2,638)	2,809	1,878	1,082	37
9. San Jose settlement, Table 4.6 ($2,071)	2,206	1,475	849	29
10. Quebec North Shore, Table 4.12 ($1,077)	1,147	767	442	15

Source: Previous tables as indicated in each row.

Notes:

a. Each entry is the product of the alternative number of employees that would be affected in Ontario as given by the 4 columns, and the alternative per person cost estimate as given in each of the 10 rows.

b. As discussed in the text for each case. Usually the "best" estimate is also in the middle range of the alternative estimates.

c. Rounded figures from Table 2.4.

to the $1,077 settlement received by the Quebec North Shore Paper workers, to a high of $7,833 million ($7.8 billion) based on the assumption that 1,065,000 workers in Ontario would receive a comparable worth wage increase equal to the $7,355 award to Washington State employees. This substantial variation exists in spite of the fact that this summary table contains only the more "reasonable" range of likely per person cost estimates, the more extreme values having been dismissed as less likely to occur.

Most of the variation in the total cost occurs because of the large difference between the figure of 14,000 workers affected in Ontario and the other three figures which are substantially higher. This highlights the fact that the total cost estimates will depend crucially on the number of persons who will be directly affected by the implementation of equal value. If one believes that the numbers will reflect the same intensity of implementation that the federal jurisdiction had between 1980-82 then the column 4 figures would be representative; if one feels that the implementation would be much broader, then the figures of columns 1 - 3 would be more representative. In that vein, the column 2 figures based on the 712,000 full-time, paid workers who are in predominantly female jobs and covered by the Employment Standards Act would be representative of the costs associated with a fairly broad application of equal value to the sex segregated jobs where such legislation is likely to have its greatest impact.

The highest estimate of 1,065,000 persons likely to be affected is approximately 76 times the low estimate of 14,000 and the high estimate of per person costs of $7,355 is approximately 7 times the low estimate of $1,077. Therefore, the highest total cost estimate of $7,833 million is over 500 (i.e., 76 x 7) times the lowest cost estimate of $15 million. The variation in per person cost estimates clearly is not as substantial as the variation in the estimates of the number of persons likely to be affected. That is, there is likely to be less controversy over the per person cost estimate associated with the likely wage adjustment received by the recipients than there is about the likely number who will be affected by wage adjustments.

The per person cost estimates of the last 5 rows, 5 - 10, are likely to be fairly accurate assessments of the wage adjustments that could be expected from the actual implementation of equal value since they were the figures derived from actual implementation policies; that is, they reflect wage adjustments that have already occurred as a result of an equal value assessment. In contrast, the Washington State award (the highest estimate from row 1) is still being contested, the national estimates (row 2) are derived from total U.S. cost estimates that were hypothetical and that did not provide an explanation for how they were derived. The estimate of row 3 based on closing .20 of the wage gap in Ontario (the amount of the gap that has been attributed to unequal pay for comparable worth as measured by job evaluation procedures) may be high because implementation is unlikely to close the full amount of that gap, especially if some of it reflects the "overvaluation" of predominantly male jobs. In fact, if about half of the .20 gap reflects the "overvaluation" of male jobs and half the "undervaluation" of female jobs, and if equal value legislation simply raised the wages of the "undervalued" female jobs to reflect the market valuation of their job evaluation score then the cost estimates associated with row 3 would be halved, and therefore fairly similar to those associated with the actual implementation policies carried out in various cases (rows 5 - 10 respectively). On that basis, per person cost estimates associated with wage adjustments of approximately $2,000 - $3,000 would be representative, implying total cost estimates of $27 million to approximately $3 billion. Utilizing the column 2 figures based on the 712,000 full-time, paid workers in predominantly female jobs and who are covered by the Employment Standards Act would imply total cost estimates of approximately $1.5 billion to $2.0 billion.

Clearly these estimates have been based on the inputs of a variety of numbers the accuracy of which depends upon such factors as their source, and assumptions and calculations used with respect to the numbers. In all cases, however, the assumptions and calculations have been explicitly stated so that it is a straightforward matter to alter them, perhaps in response to new information, and recompute new total cost estimates.

While it is tempting to pick a "best of the best" estimate from Table 8.1 that temptation will be resisted here because it may imply a degree of accuracy in the results that is simply not warranted by the calculations that underly the results. Some indication was already given of what is likely to be the more realistic range even with the restricted ranges of Table 8.1. However, the range must remain a range to reflect the uncertainty of the cost estimates.

The previous estimates reflected the direct costs associated with the wage increases that recipients would likely receive from an equal value wage adjustment. Numerous indirect effects were also discussed in the text; some mitigating the costs, others exacerbating them. Male wages may fall (realistically rise less rapidly or experience a slower rate of increase) if their jobs were consistently "overvalued" according to job evaluation procedures and if employers try to save by reducing wage costs from other segments of its labour force. They may also fall reflecting supply influxes emanating from the reduced employment demand in the higher wage sectors that received equal value wage increases and they may fall to the extent that they were complementary to those jobs for which employers reduced their demand because of the higher wage costs.

Working in the opposite direction, male wages may rise as the demand for males increases to the extent that they are substitutes for the now higher wage female jobs. In addition, they may rise to the extent that there is pressure to restore, at least in part, the old relative wage structures that existed prior to the legislation. Clearly there are a variety of indirect, secondary forces at work in opposing directions; hence, it is not possible to determine their net effect on subsequent costs.

Whether the cost effects are direct or indirect there may also be forces at work to offset in part at least some of the cost consequences of equal value policies. The quality of the workforce may increase to the extent that motivation and morale are increased and since employers will be able to choose from a larger queue of applicants for the higher wage jobs. Employers may also be able to increase the requirements for the job, although this will be limited because it should lead to high job evaluation scores which in turn would require higher wages to reflect the "value" of the job. Lastly, employers may be "shocked" into more efficient practices to compensate for the cost increases emanating from equal value; however, the scope for such adjustments is unlikely to be substantial in an environment that was competitive prior to the legislation.

While the indirect effects, especially on male wages, and the adjustment factors to offset some of the cost increases associated with equal value legislation are likely to occur, they are unlikely to be substantial, at least relative to the direct effects associated with the wage increases for the recipients of equal value wage adjustments. The indirect effects work in opposite directions and hence in part offset each other, and the cost saving adjustments elsewhere are unlikely to be substantial because there is unlikely to be many "unexploited profit margins" in competitive, cost conscious environments. For these reasons, it seems reasonable to focus on the direct effects of the wage cost increases for the recipients of equal value wage adjustments.

DISCUSSION

The previous cost estimates were ones associated with the wage increases likely to be received by recipients of equal value wage adjustments. These are transfer costs in that the costs to employers are clearly gains to the recipients. They are not costs in the sense of a loss of real resources (albeit they can have important implications for recipients and payers alike). That is, the welfare of society (at least as measured in money terms) is not reduced by the amount of these dollar transfers, since they are transfers.

This does not mean that such transfers only have distributional and not efficiency implications, the latter of which could change the size of the economic pie to be divided. However, such second-order efficiency implications are beyond the scope of this analysis which was to provide estimates of the possible cost consequences of the wage increases emanating from equal value adjustments. The efficiency implications, which do involve the loss or gain of real resources, would emanate from such factors as the consequences of using job evaluation procedures as opposed to the forces of supply and demand to determine the "value" of a job. This issue is crucial since much of the policy debate over the viability of equal value legislation will hinge on the pros and cons of the market versus administrative procedures like job evaluation techniques for determining the "worth" of jobs. As pointed out by Bunzel (1982, p.81) with respect to the San Jose case "Both the supporters and opponents of the comparable worth approach agree on one important point ... no consideration was given to economic realities of the market."

In fact, the equal value principle merits analysis according to numerous program evaluation criteria: the control of administrative costs; the attainment of target group efficiency (assisting as many of the target group as much as possible without spilling over into the hands of the nontarget group); minimizing allocative inefficiencies associated with the inefficient allocation of resources; providing nondemeaning benefits; and attaining flexibility over time. Such a comprehensive analysis would shed light on the viability of equal value legislation, especially relative to other policies for achieving similar ends. Also, it would shed light on the likely consequences of equal value legislation, should it be adopted as a policy alternative. This in turn would assist in suggesting complementary policies that may offset some of the possible adverse effects, and alternative policies that may achieve similar results.

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